

M I N D

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY

I.—OTHER MINDS (VIII.).

BY JOHN WISDOM.

Gray. This result is quite absurd. You profess to have shown that, apart from mathematical truths, no man knows anything except his own sensation of the moment. But your whole proof has rested upon the fact that even in those cases where we should say that a man has the best of reasons for making a statement it is nevertheless *possible* that he is wrong. This fact does not lead to your conclusion except upon the assumption that if a man really knows that something is so then it is *impossible* that it isn't so. And as Mr. Norman Malcolm has explained in an article called "Certainty and Empirical Statements",¹ this assumption though true in one sense is false in another. Consider the use of 'impossible' in which when someone points to Jones who has, unknown to me, undergone a severe operation and says, "That's Jones", I reply, "Impossible". Here, for "Impossible" I would readily substitute "It can't be", "It isn't". In this sense of impossible it is true that if a man knows that something is so then it is not possible that it isn't; for it is absurd to say "I know he is in but it's possible he isn't in", and it is absurd to say "Henry knows he is in but it's possible he isn't in". But it is not true that if a man knows that something is so then it is *logically* impossible that it is not. To say "then it is logically impossible that it is not so" is to say "then it is self-contradictory or absurd to say that it is not so". Now it is not only not true but absurd

¹ MIND, January, 1942.

to say that if a man knows an empirical proposition, p , then not- p is self-contradictory or absurd. For this implies that if a man knows an empirical proposition then it is not empirical.

Black. The first thing that disturbs me about what Mr. Malcolm says is that a philosopher who says "If a man knows that something is so then it is logically impossible that it isn't" is speaking the truth. He wouldn't be if he meant what Malcolm says he means. It must therefore be perfectly proper to mean something different from what Malcolm says he means. And it is. If I remember that I had eggs for breakfast then it is logically impossible that I didn't have eggs for breakfast, although it is not true that if I remember that I had eggs for breakfast then the statement "I had no eggs for breakfast" is self-contradictory. And if a man is drunk then it is logically impossible that he is sober. In general: Whenever we may say "It is logically impossible that p and not- q " we may also say "If p then it is logically impossible that not- q ", without meaning that not- q is self-contradictory. It can't be true that you know you had eggs when you didn't. In logical language this can be put: It is logically impossible that both (i) X knows that S is P and (ii) S is not P . And this may be put: If X knows that S is P then it is logically impossible that S is not P . This is the principle which philosophers have used to prove that we never do and never can know an empirical fact, and whether they have used it well or ill the principle is correct.¹

Gray. Malcolm might reply, "I am obliged to you for providing a premiss from which it is even more plausible to suppose that philosophers have mistakenly stepped to their mistaken conclusion that if a man knows that something is so then it is logically impossible that it is not, in the sense that its denial is in itself logically impossible. I am the first to recognise the importance in philosophy of giving the right account of how a mistake was made, but I must now insist that I was right in saying that sceptical philosophers arrive at their absurd conclusions that we do and can know nothing, because of confusions about the use of 'possible'. I do not allow that the confusion I pointed out plays no part, but I am prepared to allow that the one you have pointed out plays much more part. Indeed this is what I now wish to insist upon. Philosophers have argued: If a man is to know that p then it must be logically impossible that not- p , i.e. not- p must be logically impossible, i.e. not- p must be self-contradictory. But when p is an empirical proposition this is never true—never, not however favourably placed we

¹ Malcolm at some places says this.

imagine the man to be. Therefore no man ever knows an empirical proposition."

Black. This is still not a fair account of what sceptical philosophers have done. The confusion between "If X knows that p then it is impossible that not- p " and "If X knows that p then not- p is impossible" is easy to fall into, I allow. And it is partly from this cause that philosophers have said so confidently, "Actually, whenever a man claims to know that p it is not impossible that not- p ". But what they really wanted to say was this: (i) If a man knows that something is so then it is impossible that it is not so. (ii) Actually, whenever it is claimed that a man knows that something is so, for all he really knows it may not be so. Therefore, actually, no man ever knows what he claims to know.

Gray. But in his second premiss the Sceptic begs the whole issue, since if the claim is that Henry knows that S is P then to assert that for all Henry knows S may not be P is to assert that Henry doesn't know that S is P, since if among the things that Henry knows were included the proposition that S is P then it would not be the case that for all he really knows S may not be P.

Black. You haven't understood what the Sceptic means by "really knows". When a man says that S is P or that he knows that S is P, as for example that there is a rat in the room, he always bases his claim on other statements such as "I can smell one can't you?" i.e. we all smell a ratty smell, "I can see one can't you?" i.e. we all see a ratty sight. In support of his claim this is all he does offer, this is all he can offer. "Now", says the Sceptic, "what men know of this sort of thing as a basis for such a claim as 'There's a rat in the room' or 'I know there's a rat in the room', never suffices for that claim. Therefore their knowing what they do in the way of such statements as 'I can smell a rat', 'You can smell a rat', never constitutes their knowing that a rat is present. Of course there is a sense of 'I smell a rat', 'I see a rat' which entails the presence of a rat and in which to see a rat is to know that a rat is before one, just as there is a sense, and that the most usual, in which to remember an incident implies its occurrence and in which to remember an incident is a way of knowing that it took place. But this is not the sense in which 'I smell one', 'I see one', provides a basis for 'I know there's a rat in the room'." If when the Sceptic asks, "How do you know there's a rat in this room?" you reply, "I can see one and it follows from this that there is one and that I know there is", he will

simply say, "Let me put my question so as to exclude this irrelevant answer of yours. How do you know you see a rat? How do you know you smell a rat?" To avoid this questioning of your basis you must use "I can smell one" so that you are giving the same answer as one who says "From the smell". (Compare "from the feel in my bones I know I have a cold"—or malaria.) If a man says "That's a Tetrarch colt" and you say "How d'you know?" and he says "I can see it is", then there is (i) a sense of "I can see it is" from which "That's a Tetrarch colt" follows, but, *ipso facto*, this is a sense in which "I can see that's a Tetrarch colt" is open to every source of doubt to which "That's a Tetrarch colt" is open. There is (ii) a sense of "I can see it is" in which this means "From the look of it" or "From it's colour and conformation". In this sense it gives the basis of the claim "That's a Tetrarch" without including that claim. But unluckily it at once becomes possible to say, "For all you really know it's not a Tetrarch". And from this it is very tempting to step to "You don't really know it's a Tetrarch". The temptation is less when the play on 'know' is removed. But it remains even when the matter is put more fairly in the form, "For all your experience of colour and conformation amongst thoroughbreds and for all you can see and feel of the colour and conformation of this colt he may not be a Tetrarch so you don't really know he's a Tetrarch". The temptation is less now that the play on 'know' is removed. But it is still strong. For if his past experience and present data don't guarantee the expert's claim and he has no other evidence then he is as surely betting on a pedigree when he says "That's a Tetrarch" as he is betting on a performance when he says "That's a winner". All he really knows is that it's grey and that all the grey thoroughbreds he has seen and heard of have been Tetrarchs. But knowing this doesn't constitute knowing that it's a Tetrarch. Is what he referred to about himself when he said he knew that the colt before him was a Tetrarch something other than or more than his possessing the admittedly convincing evidence which he has? If so *what* is this something more? If not he must allow that he didn't know that the colt was a Tetrarch, that it was merely highly probable on the basis of what he did know.

In just the same way whenever a man claims to know that there's a rat in the room his past experience and what he knows in the way of "I can smell a rat", "I can see a rat", never constitutes his knowing what he claims to know, and there's nothing else about him, nothing over and above his experience

and his smelling this and feeling that, which constitutes his knowing. It's that or nothing which is the reason for saying "He knows", and that is not enough.

White. This argument is extremely compelling. There are two curious points. One is that the bloodstock expert will answer, "I don't care what you say, I know that's a Tetrarch. What'll you take about it?" Is he misunderstanding the issue? Weren't we doing philosophy? Can it be appropriate to ask a price about a philosophical issue? The second point is another aspect of the first. When the Sceptic says "We never *do* know" is his only reason that we never *could* know? Is what he says not only true but necessarily true?

Brown. Never mind the curious points. Is the argument sound or isn't it? I believe that one of its premisses is false. For it isn't true that when a man says "There's a rat in the room" then there is nothing about him relevant to this claim except his past experience and what he now smells and sees and feels. For he not only knows what pattern his sensations have taken in the past and what patterns they are taking at the moment, he also knows a lot about what patterns they will take if this or that occurs. If a child who has been burnt sees a fire he knows what he will feel if he tries to hold the flames, and a dog which smells a rat knows what to expect when you lift the straw. From the pattern of its sensations in the past a creature is prepared for its present sensations to continue on this pattern and not on that. And to know how the pattern will continue is to know that a rat is before one.

White. There are sceptics whose scepticism arises from not accepting your last step, from denying that even an infinite knowledge of the actual and potential patterns of appearance gives knowledge of reality. These are those whose scepticism goes when and if they grasp what sort of difference of meaning there is between, on the one hand, statements about physical objects, causal relations, and minds, and, on the other hand, statements about their manifestations. These sceptics do not say that we do not know *any* empirical proposition, *any* matter of fact, but only that we know *only* those about how things will *seem* to us. It is with a wider scepticism that we are now concerned. This scepticism has a different source, namely the denial that from the present we can know *anything* about the future. Sceptics of this sort say, "You may say if you like that knowledge is possible at the point of infinity, and that when time and with it distance is no more then error will have become impossible. For then the objective will have vanished into

the subjective, the subjective into the objective, and we shall know not through a glass darkly but face to face. But this way of describing our ignorance by talking of knowledge in an impossible situation doesn't affect our claim that no man knows anything. You are quite right when you say that when a man claims to know that there's a rat in the room then there's a great deal besides his past and present sensations which is relevant to his claim since there is a great deal about what sensations he will get if this or that occurs, which is relevant to his claim. Where you go wrong is in saying that he *knows* these things about his future sensations. These things about what he will see or hear if this or that occurs are not things which he claims to know directly. On the contrary if asked how he knows these things he will offer just the very same reasons he offered for 'There's a rat in this room'. And these reasons no more constitute knowledge of his claims about his future sensations than they constitute knowledge of the presence of a rat.

So once more we say : When a man claims to know that there is a rat in the room or, if you like, that things will continue to seem just as they should if there were a rat in the room, nothing beside his past experience and present sensations counts. Maybe he takes sugar in his tea, maybe he's first-rate at snooker, but that's beside the point. Everything's beside the point except his smelling the smell he smells and his being such an expert ratter. That's why when he snuffles and wags his tail we say, 'He knows there's one there, good old Trusty, he knows'. But his smelling the smell he does and his having had the experience he has had don't *constitute* his knowing that there's a rat there or that things will continue to seem just as they should if there were. For his past experience and present sensations are compatible with any future pattern and with their being no rat there while knowledge that a rat is there is not. Therefore all about him that counts is not enough and he no more knows that the rat is a rat than the bloodstock expert knows that the grey is a Tetrarch or the doctor that the patient has chronic anæmia."

Gray. And yet undoubtedly men and dogs often know that there's a rat in the room. And we should often say, "I knew he was a Tetrarch the moment I set eyes on him", and we should say, "The doctor knew at once that there was no hope".

Besides, these cases are different. If someone says of the bloodstock expert that he doesn't know that the colt is a Tetrarch I understand very well what is meant. What is meant is that he hasn't done all he might have to make sure. He has looked

at the colt but he hasn't written to Weatherbys, and so on. And when someone asks me, "But does the doctor really know?" again I understand very well what is meant. It is not merely the academic point that always anything *may* happen, it is the point, "Do the doctors know in such a case?", in other words, "Is this doctor's prediction well supported, that is as well or nearly as well as an astronomer's prediction?" But if someone asks, "Do you know that glass is fragile, that fire burns, that cheese is soft?" *i.e.* "Do you know when you see a glassy looking thing that it is fragile or, if you like, that it is glass? Do you know when you see as it were a fire that it will burn, *i.e.* that it is fire? Do you know when you see a *cheesy* looking thing that it is cheese?" then I don't know what he means unless he wishes to contrast my case when I merely see cheese, with my case when I see, touch and taste it all at once. But if that is what he is doing then, though it seems to me that he is being eccentrically strict, I can still understand him, I still know what he would call knowing.

But if he says that even when I am seeing, touching and tasting cheese still I don't know that there is cheese in my mouth, then I don't know what he means. Then I am no longer surprised that he says not merely that we don't know but that we never can know. For then we cannot conceive of what it would be to know. It now isn't merely that the use of 'know' has been eccentrically narrowed, it has been narrowed to nothing. Further, it has been made a *self-cancelling* expression like the expression 'ride a motor cycle' as used by someone who is determined to use 'ride' only where what you ride is something living. Here the Sceptic has decided to use 'know that S is P' only when nothing not entailed by what he directly knows and therefore nothing in the future, can shake S is P, while like the rest of us he will not call S is P a 'statement of fact not about the speaker's sensations' unless it makes a claim about the future.

Black. Not at all. Allow me to explain. You say that if when you are looking at a cheese someone says to you, "You don't know whether there is cheese before you", you understand. You understand even when he asks you while you are looking at the cheese in a well lighted larder, not a dim seance room.

Gray. Certainly. He means I am not like one who is eating the cheese, in short that I am not tasting cheese.

Black. Exactly. You don't say that you can see a willow pattern when all you can see is a Chinaman on a bridge, because there's more to a willow pattern than that. To see a Chinaman

on a bridge is not sufficient because you may look further and fail to find the necessary pagoda and birds. Of course, if you lift the cloth which covers half the plate and see at once the Chinaman, the bridge, the pagoda and the birds then at once this is enough to make it true that you are seeing a willow pattern. When you see all the parts of the pattern that you claim exists when you say, "A willow pattern", then you see a willow pattern, but not before. Likewise if you see a dancer do a "natural pivot turn" and then look away because someone drops a plate, you don't say you saw him do a "running right-hand turn"—whether he in fact made that pivot turn the first part of a running right or went on in some other way. If, and only if, you did not turn your head but saw the whole of that pattern in time which constitutes the running right-hand turn do you say, "I saw him do a running right-hand turn". Now when a man claims to see a rat all he really sees is perhaps one side of its head or at best the whole of one side of it. And this is not to really see a rat, any more than seeing a Chinaman and a bridge is really seeing a willow pattern, or seeing a natural pivot is seeing a running right. Of course while Nature keeps orderly you may very reasonably guess that here's a willow pattern, especially, perhaps, if what you do see is blue and has a certain glaze; and if the dancer were very regular you might very reasonably guess that this natural pivot is the first part of a running right; and if you see the head of a rat or the whole of one of its sides then, because Nature is orderly about these things, you may very reasonably guess that here is a rat. But all this is guessing and not really seeing and knowing.

Gray. But here you make the *same* mistake as you made in saying that since it is perfectly natural and intelligible to say of someone who merely looks at an animal and says, "It's a Tetrarch", that he doesn't really know it's a Tetrarch so it is perfectly natural and intelligible to say of someone who looks at and tastes a food and says, "It's cheese", that he doesn't really know that it's cheese. It is true that it is perfectly natural and intelligible to say of someone who sees only part of a willow pattern that he doesn't see that willow pattern or know that it is before him. But this is just because there is something which you would call his really seeing a willow pattern as opposed to only half seeing it. The running right-hand turn looks more what you want because there is an inclination to say that it is impossible to see a running right-hand turn because by the time you are seeing its last phase its first has died away, while yet it is perfectly natural and intelligible to say of someone

that he didn't really see a running right, only something from which he might reasonably guess at a running right. But if we speak more carefully we shall see that this, so far from supporting the intelligibility of the impossible, shows up its unintelligibility. For what made intelligible our statement "You didn't really see a running right?" It was the statement "you turned your head away", that is it was the understanding that if you had not turned your head away you would have seen the running right. The moment it is suggested that even if you hadn't turned your head and so had seen the suitable later phases, you still would not have seen a running right, then at once we ask, "What d'you mean? Why not?" The moment it becomes impossible, that moment it becomes unintelligible—its name becomes not merely an unexplained expression but an unexplainable one. For suppose that it is merely unexplained and that the speaker, the Sceptic, can explain as follows: "It wasn't done in a room with mirrors", or "It was done so slowly that your memory of its earlier phases could not be relied upon by the time you were seeing its last phase". At once we may mend matters. We fix the mirrors and raise the tempo to 60 bars to the minute.

The Sceptic may say, "Even so you had to rely on your memory, it wasn't done in an instant". If he says this his demand is plainly self-contradictory—his language inexplicable. For he will not speak of a running right and nor will we unless upon a certain movement (a natural pivot) *succeeds* another (a running zigzag) and he will not speak of seeing or really seeing unless what is seen is instantaneous, that is not a matter of one thing succeeding upon another.

But the Sceptic may reply more subtly. He may say, "I don't demand that the turn should be done in an instant, that is plainly self-contradictory. But even at 60 bars to the minute it takes too long." Suppose that however fast the tempo a professional can be found who can do the turn at that tempo. Neglecting for a moment the unintelligibility of this supposition, imagine that every time we increase the speed the Sceptic says "It's still not fast enough". Then the situation is a curious one and of great importance for philosophy. For we cannot say that the Sceptic is making a self-contradictory request, that he is lamenting that parallel lines never meet. It has been said, *e.g.* by Wisdom, that that is the sort of lament he is making. But he isn't. He would be if he were asking to see in an instant a running right-hand turn done in an instant. But he allows that that is self-contradictory. Can we say that his expression,

'to really see a running right' though not self-contradictory,¹ has no meaning? But he explains its meaning by explaining with a perfectly intelligible phrase, namely 'too long', how what he wants differs from what actually happens. So we cannot quite say that it has no meaning. On the other hand, there is something about his explanation which I feel inclined to express by saying that it is "never completed". However, I don't wish to insist that that epithet either is properly applied here. What I mean by it here is that his explanation is not completed like it would be if, at last, when the tempo had reached 100 bars to the minute and we had turned to him asking, "Is that fast enough?" he had replied, "Yes". But as he never does this his explanation suggests that not until the complaint, "took too long", becomes impossible will we reach what he calls "really seeing an event". And this complaint becomes impossible only when the event takes no time, *i.e.* is not an event. In other words he speaks *in accordance with* the principle which he allows is self-contradictory. Because of this I say that his account of really seeing an event is *surreptitiously* self-contradictory.

Black. I quite agree that such a Sceptic is not only altering, narrowing, our actual use of 'see an event' but introducing an inapplicable, impossible, self-contradictory use. And I see how by proceeding subtly he conceals this. And I confess that I haven't emphasised the fact that actually we speak of seeing a pattern and of knowing that a pattern is before us when we don't see quite the whole. The Sceptic if you like misrepresents and narrows our actual use of know. But the use he recommends is "the actual use, only more so", and it is a perfectly intelligible and explicable use.

Actually, I know, we say of a man who sees merely the head of a rat that he sees a rat, and knows that there's a rat in the room. But I must remind you that we are inclined to say of a man who sees the whole of a rat, or if you like the whole of one side of a rat, that he knows better still that there's a rat in the room. So one thing we may count against saying that a man knows that there's a rat in the room is the little he can see of it. And there's no sharp line between regarding the tail or even the head of a rat as insufficient for knowledge and regarding as insufficient everything short of seeing the whole

¹ I am aware that 'self-contradictory' "properly" applies to predicates and propositions, and to avoid grammatical confusion, it is safer to use of symbols the word 'self-cancelling'. But this is a new word and so has no life.

or, if you like, the whole of one side of the rat, with mirrors arranged for its other sides while smelling and tasting and touching it and hearing its well-known voice. Consequently, while any of these possibilities remains unrealised there lingers in all of us an inclination to say and feel that we don't really know that a rat is a rat until and even when we are shaking it like a dog. We must say this if we wish to use 'know' *consistently*, that is, so that what in one degree we count against its application we count in all degrees. Such a use is eccentric but entirely understandable. It isn't merely that one wishes for a convenient and pretty notation, it is that one feels, and rightly, that a notation in which one speaks as if there is a difference in kind when there is only a difference in degree has something of a lie in it—like there is in speaking of those we love and those we hate when there is so much hate in so much love.

Brown. But after all when this has been realised—for example, how much we hate those we love—it is necessary to remember that the distinction we marked with our old notation was a distinction. Maybe Anna Karenina soon hated Vronsky but even on that last morning her feeling for him was very different from that of Irene for Soames Forsyte.

Gray. It isn't merely that the Sceptic by narrowing the use of 'know' is robbing us of our means of marking a distinction we need to mark, it is that he is narrowing the use of 'know' to nothing, narrowing it so that 'knowledge of matter of fact' becomes a self-contradictory expression because part of what we look for in order to speak of 'matter of fact other than his own sensations' is included in what precludes our speaking of 'knowledge'.

Black represents himself as saying merely that one who sees only the head of a rat or merely *sees* a rat, doesn't know that a rat is before him. But really he is going much further than that. For he says that even a dog who has a rat in his teeth doesn't know that he has a rat in his teeth. What I want to insist upon is that he is there contrasting the dog with no one, that he is giving a not merely eccentric but impossible use to 'know'. Even in our strictest moments we demand only that a man should have the best basis conceivable for his claim that a certain object is before him.

Black. You mean by 'has the best basis conceivable' 'senses as much favourable to his claim as he conceivably could at a given moment?' But isn't it true that we are inclined to count also the nature of his past experience?

Gray. I confess I had forgotten for the moment that we sometimes say that a man, a doctor perhaps, doesn't *know*, not because he hasn't thoroughly investigated the case before him but because there has not been that experience of regular connexion between the wild phenomena with which he is dealing, which is so necessary to the prediction of the future, however extensive our knowledge of the present. Some of us are stricter than others about this but no doubt we all of us count it. And I must explain that what I really want to say is that even in our strictest moments we demand for knowledge of a claim involving future sensation only that a man should have the best conceivable basis in past and present sensation. What I want to insist upon is that if the Sceptic demands more than this then his statement is *necessarily* true, *i.e.* he is remarking on the absence of the self-contradictory.

Black. But even a man who is eating a rat has not the best basis he conceivably could have for "There's a rat in the room". There is still evidence obtainable which he hasn't obtained—for he hasn't yet ascertained whether it bursts into flames on the way down his throat.

Gray. It is true that at the time of saying, "There's a rat here, I know there is", there is always obtainable evidence that has not been obtained, because it is always true that if the speaker waits he can gain more evidence for his statement. But this doesn't prove that he could have done better than he did at the time he spoke. What I mean is this: There is an important difference between the sense in which a man who might have been touching a rat as well as looking at it might have had evidence which he hasn't and that in which this is true because he doesn't yet know whether it will burst into flames on the way down his throat. The point is contained in the advertisement "That's Shell, that was", in which the speaker is understood to see a car appear and pass while he speaks.

Black. I agree that we count in favour of saying that a man knows that there is a rat in the room, his having the best basis he conceivably could have up till the time of speaking—that is of his *having done* all he could. But I must insist that we *also* count against knowledge the possibility of his *still doing* better. For we say of even a man who is eating cheese or drinking brandy that he doesn't know that he is eating cheese or drinking brandy *as well* as he will when he has waited a little longer to see whether it turns to ashes in his mouth or bursts into flames in his throat.

Consequently there is an inclination in all of us to say that

a man knows *best* when it is no longer true that he would know *any* better if he waited *any* longer, *i.e.* that he doesn't really know that there is a time pattern before him until he has seen, sensed, the whole pattern or (necessarily vacuous alternative) enough of it to *deduce* the rest.

Gray. I admit the inclination, I admit that I ought not to have represented us as not even in our strictest moments counting the possibility of still doing better. But I claim that if, like the Sceptic, we yield without limit to this inclination then we have left nothing but an impossible, unintelligible, use of 'know a matter of fact'.

Black. You can always understand "would know better if he waited longer" can't you? Well then surely you can understand "would know no better if he waited longer"? And this expression gives the nature of real knowledge.

Brown. I feel this is a very clear explanation.

Gray. Exactly. You feel that the Sceptic is contrasting the engineer, the dog and the beer drinker, not with any mortal being but with one who waits till the end of Time, or better, since the memory of so old a man might begin to fail, sees in one moment the panorama of all moments from all places and can already hear the whimper with which the world ends.¹

Black. No, no. I don't want to talk of knowing the future as one knows the present; that is as absurd as talking of knowing the distant as one knows the near or of seeing in the dark as well as in the light. And to talk of knowing the whole future as one knows the present is, if possible, more absurd. What I said was this: We in fact speak of a man's knowing that, *e.g.*, what he is drinking is beer, when we should also say that he would know better if he waited to see a little more of what is going to happen. I concluded that a man knows *best*, when his knowledge has none of this defect which, when present in some degree, makes us say that he will know better when it is present in less degree; that is, I do not say a man has perfect knowledge when although his claim involves the future he can deduce this future from the present; nor do I say that he has perfect knowledge when all claims about the future have been subtracted from his claim so that it comes to nothing; but I do say that he would have perfect knowledge if he made his claim and then waited till it was not true that he would do better by waiting longer.

Gray. And what I say is that just as "makes an objective claim purely about the present" hid a contradiction, just as

¹ With apologies to Mr. T. S. Eliot.

"deduce the future from a statement purely about the present" hid a contradiction, just as "sees the future as he sees the present" hides a contradiction, so does "waits till he really knows about the future or about an animal or a thing" hide a contradiction.

White. But isn't this exactly what Black is saying. You are saying that the opposite of that ignorance which Black says is inevitable, is impossible.

Gray. I want to do two things. First, I want to get it quite out in the open that Black is not stating a mere matter of fact when he says that we can never know anything about the future or about things and animals. I want this out in the open because with such statements as "All knowledge is imperfect", "We can never know anything about the future", "We can never know that what seems to be a so and so is a so and so", "We can never really see an event", "We never see a perfect circle", "We never really know what is happening beyond the horizon", "We can never see in the dark like we can in the light", "All love is imperfect", although it is possible to take them so that their contradictories are self-contradictory and senseless, it is also possible to take them as statements of fact, and people are often neither definitely doing the one nor definitely doing the other. Even if someone says, "To really see a running right-hand turn done it would have to be done in no time", it is not clear that he is not saying merely that it would have to be done like a flash of lightning, which is over in no time. It is only when he rejects the best we can offer and insists with remarkable assurance that no novelty in nature will ever provide what he wants, that we begin to understand that what he speaks of is not merely a temporary accident but an eternal necessity. And at the same moment we understand why he is so confident that what he says never happens, never will happen. For realising that what he stated was for him an eternal truth and not a matter of fact was not other than the process of realising that though there are things which if they were to happen would lead some men to say that they had seen such and such a thing done in no time, there is nothing which would induce him to do so.

Black. Just as I am now prepared to say plainly that "We can never know the mind of another" expresses a necessary truth, so I am prepared to say plainly that "We can never know anything—or anything beyond the sensation of the moment" expresses a necessary truth. It is not something that may be remedied at any time.

White. Let me understand this. You mean that when you say "We can't know the future" you are not merely deploring the rarity or non-existence of precognition. You would say that reasonably and rightly predicting from pictures in a crystal or in one's head is not what you would call "really knowing the future". And when you say that we can never know the future the accent is not on 'we' is it? You mean that neither we nor the angels nor God in heaven can know the future.

Black. Well I don't know about that. Certainly I don't count precognition, that is only another form of the "knowledge" we already have. But I don't say that there might not be a being who, knowing in quite a different way, really knows what we can only guess.

White. Ah! Then you do not say that we can never know, you allow that sometime we may know, even if you insist that we should have to change our methods and must in the process become divine. Now what would it be to know in this divine way you contemplate? You see, you sound to me like a man who says, "There's no such thing as real love of a place". Then we suggest this and suggest that, and he says, "No, that's not real love of a place, we can't really love a *place*", and we say, "I don't believe you know what you're asking for. What would you call real love of a place?" and he says, "I mean something quite different, something different in quality", and we say, "Do you mean love a place like we do a person", and he says, "Yes, that's more like it, only that's not possible, is it, really? Because then the place would have to be a person", and we say, "Well, what *do* you mean?" and he says, "O, I mean something quite different, something that is real love and yet love of a place". O, unknown species of love! lost, not in Tauris and too long ago for us to well recall it, but somewhere in the labyrinths of logical space.

It is nowadays obvious to all that it is absurd to talk of knowing a future fact like one knows a theorem, *i.e.* as a deduction from necessary truths. And you have said that to say that perfect knowledge is gained when we can deduce the future from the present or when we know it as we know the present is so much talk. And by now it is obvious why these things are so. It is because the ultimate species of knowledge are defined by the sorts of things known. You have indeed explained that the kind of knowledge you have in mind is the kind of knowledge we do have improved out of all knowledge. And when you say that we can't attain this improvement I am sure you don't mean that we can't for fear of becoming more than

human. You mean that such knowledge is impossible to *us* because *it* is impossible.

Black. All right. But I insist that it is perfectly *intelligible* to say that neither we human creatures nor any other being can ever really know the future or that such and such a thing is before us, because we can never reach a state in which, making such a claim, we wouldn't know better whether we are right by waiting longer.

White. Let us first see what you do do with these expressions 'perfect knowledge', and 'waiting till there is no good in waiting longer'. Having ascertained the facts we can fix up the abusive and laudatory epithets later. I'm sure you are doing something with these expressions—indeed I confess I understand you, only I share with Gray the feeling that there's some *jiggery pokery* here and that what you are doing is not what one tends to feel you are doing.

What would you call "knowing the future as one who waits till he'd know no better by waiting longer". Suppose I say "This pain will last till 4 p.m. and then relief will come". The longer I wait the better I know whether I was right; indeed until 4 p.m. it is always true that I shall know better if I wait longer. At 4 p.m., however, this is no longer so. Some people would say that by waiting this long I have gained real knowledge of the future. If you were one of these people you would be quite wrong in saying that we never can and never do gain knowledge of the future. But you are not one of them. For you, I take it, would say that by 4 p.m. it's too late and that what I then come to know is that a statement about how I was going to feel, which I did make, has turned out correct, so that what I learn is something about the past and still the retreating veil before the future remains unpierced.

When and if you say this it becomes obvious that there is nothing we have conceived of which you would call 'real knowledge of the future', or 'being in a state in which one would know the future no better by waiting longer'. But more than this. After all we can't conceive of anything you would call "a red Monday". But with "real knowledge" and "real love" it is more than this. Real love and real knowledge are impossible but a red Monday is not. What is this more? You are not *averse* to applying the expression 'a red Monday' still less to applying the expression 'a red abracadabra'. But you are averse to applying the expression 'real knowledge'. And this aversion is not aesthetic. It arises from your education. For your education makes any attempt to apply the expression

to anything, whether in actual or logical space, produce a conflict in you. Take the promising cases we imagined. Up to 4 p.m., though inclined to speak of knowledge of the *future*, you refuse to call it *real*, because improvement is possible. After 4 p.m., though inclined to speak of *real* knowledge, you refuse to call the knowledge, knowledge of the *future*, and this is just because 4 p.m. is the last time referred to by the statement, "This pain will last till 4 p.m." It is this which makes knowledge, real knowledge, of the future, inconceivable to you as opposed to not in fact conceived of by you. And that which makes it inconceivable is that which makes it impossible.

Black. And is it the same with knowledge of things?

White. Well, is it? Suppose that one man before the start of a race points to one of the horses and says, "That is the winner", while another man says nothing until in the final furlong one of the horses goes to the front. Another man says nothing till one of the horses has passed the post first. He is never wrong. True, he isn't what most people would hope for if you said, "I know a man who always knows the winner". But perhaps it is what you call "waiting until one really knows that the thing before one is the sort of thing one says it is". Or again, one man looking very carefully at a caterpillar and referring very carefully to his butterfly book says, "That's a caterpillar of the Hawk moth". Another waits till at the proper time the caterpillar has formed a proper chrysalis. Another man waits till the proper moth flies away. Perhaps this is another example of what you would call "waiting long enough to really know that a statement about a thing or an animal is correct", or should we say "was correct". Perhaps that's the trouble. Our cautious friend at the races was always right. But his friends laughed at him. And this was because of his air of doing the same as they did, only without the defects of what they did, when really "That's the winner" was losing more and more of its meaning as the race went on, and he didn't speak till it had lost all its meaning, or if you like, had become merely a description of what they had seen and were seeing.

Black. No, my trouble is that he still has not waited long enough.

White. You mean an objection may be lodged and sustained against the winner, as the race cards call the horse first past the post, and then he isn't really the winner.

Black. And even if that doesn't happen, the camera is the only infallible way of judging a race. Besides, a man may fancy he sees a race and then find it's all an illusion. Suppose

that abracadabras were animals which showed seriatim in their foreheads the digits in the development of π . Then no man would live long enough to know whether the animal before him was a true abracadabra, *i.e.* to really know whether the animal before him was an abracadabra, *i.e.* to know that the animal before him was an abracadabra.

Now a rat is only an abracadabra with a more complicated prognosis. So is a Hawk moth caterpillar and a winner, cheese and beer and biscuits. True, there is a particularly striking point in the prognosis of the caterpillar and the winner which makes us inclined to say, "Well, that settled, nothing further matters". But really there remain other predictions involved which differ only in degree from this one, admitted on all hands to be of the first importance.

White. I see. Your point is this: You yourself wouldn't particularly mind calling 'a statement about a thing' a statement which made a *limited* prediction as to the future, and such a statement could be known to be true in the way we have seen, but what you are saying is, that in fact those statements, such as "There's a rat in the room", "Cheese in my mouth", "Beer in my throat", which we call "statements about things and animals", claim a temporal pattern *without end* and that you do very much object to saying that statements can be known to be correct when only a part of the pattern they imply is really known.

Black. Exactly.

White. Suppose a man says to you, "Perfect love is impossible". You say, "What d'you mean?" He says, "Love should stand the test of time, and other things being equal a love which has stood a longer test is better than one which has stood a shorter. Now, however long a love has lasted it is conceivable that it should last longer and thus be better. So, however long a love has lasted it is not perfect." You say, "O, I see". You understand him now and understand too why he is so sure, just as you understand why a perfect map is impossible, because however large its scale it might be larger. When the pessimist says "Perfect love is impossible" he speaks as if he is remarking on a shortcoming which he has noticed in all loves—a coming short of something he can dream of but never find. At the same time he conveys the impression that the shortcoming is inevitable. It is indeed inevitable, it is of the essence of love. Not merely of human love—for it isn't that the pessimist points to the greeds and hates that mar the loves of men so that as we mount with him his staircase to the

stars we realise that when and if we reach the top story our companions once too human will by then be too divine. It is that for him there is no top story, so that in heaven, too, love is imperfect, and this is no accident but of the essence of love. If we mean by 'the winner' what's first past the post, it doesn't matter what objections are lodged and sustained; if we mean by 'love' what lasts a day, or three score years and ten, then perfect love is possible. But if we say "These people have loved for a day so it doesn't matter what happens to-morrow" then the pessimist says "That's not what I call love", and indeed he says this whenever we try to add "so it doesn't matter what happens to-morrow" no matter how many days the love has lasted. And this procedure isn't arbitrary, maybe it caricatures our actual usage but it comes naturally out of our actual usage. It is derived from our actual usage by *the consistency procedure*, that is, by counting as fatal in any degree what in a high degree we already count as fatal. True, it exaggerates the way we count points in the pattern remote in time, *i.e.* it neglects the fact that we tend to count points in the pattern less the more remote they are in time. The patterns of things, whether rats, love or steel, not only become distorted by time and distance—our skeletons are different from ourselves—they also fade.¹ But the fact remains that a usage of 'love' in which it is never correct to say, "Well, it's ten, twenty, a hundred years since I said 'This is love', so I was right no matter what happens to-morrow" is closely derived from our actual usage. Further, just as there is no time, say a day or a hundred years, after which events are suddenly irrelevant as to whether love *existed* before, so there is no time after which events are suddenly irrelevant as to its *quality* or perfection, and it is never true that failure of love wouldn't detract at all from that perfection and further love add to it. Now, if love isn't perfect while to-morrow can add to it and love isn't love when it can't, then indeed perfect love is impossible.

So it is with perfect knowledge of an abracadabra and a *metadrummer*, which is an animal which repeats in endless succession the digits 1, 2, 3, 4. Statements of the form, "This is now, at t_1 , a metadrummer and is saying 1", imply "This will say 2 at t_2 ", "This will say 3 at t_3 ", and so on without end, that is, there never comes a moment when what will be heard at the next moment is irrelevant to the original statement "This is now, at t_1 , a metadrummer". Hence if we mean by perfect knowledge that a thing is a so and so, that that knowledge cannot

¹ MIND, January, 1942, pp. 9-12.

be improved by waiting, and if we mean by this that there is something relevant to whether it's a so and so and still not really known because not known to the knower in the way he knows that the thing seems to be a so and so nor deducible from anything he so knows, then perfect knowledge that a thing is a metadrummer or an abracadabra is inconceivable. Put it another way. It is self-contradictory that I should know perfectly now that my pen is an abracadabra. For I don't know this perfectly unless I wouldn't know it any better by waiting. Now I would know this better by waiting if there were something relevant to it which I would know better by waiting. I would know better by waiting how my pen will look ten minutes hence, since I don't know this like I know how it now looks nor can I deduce this from how it now looks. Therefore I don't know perfectly that my pen is an abracadabra unless how it will look ten minutes hence is irrelevant to whether it is an abracadabra, *i.e.* unless an abracadabra is not an abracadabra. Now if knowledge that a thing is an abracadabra isn't perfect while to-morrow can add to it and knowledge that a thing is an abracadabra isn't knowledge that it's an abracadabra when to-morrow can't add to it then indeed perfect knowledge of an abracadabra is impossible.

And in so far as rats, beer, cheese and every sort of animal and thing also involve endless patterns, so knowledge, real, perfect, knowledge of them is impossible, self-contradictory.

Indeed, nothing short of this would satisfy you. For you are claiming that it is not merely an accident that we have never gained real knowledge of these things but that inevitably we never shall, that such knowledge is inconceivable. You have claimed, and rightly, that this does not imply that, used as you recommend, expressions of the sort 'real knowledge of a metadrummer', 'real knowledge of a rat' are senseless, that is, are expressions our education gives us no inclination to use or not to use. On the contrary it implies that these expressions have a meaning and that our education gives us an inclination not to use them for anything, by making their use involve a conflict of inclinations.

You want to insist too that with this strict use of 'know', with this strict use of 'wait' you are not doing something arbitrary but are saying something which is based upon and reveals our actual use of 'know' and of words for things.

And you are right. When a man holds a mug of beer in his hand we understand perfectly well what you mean if you say "He will know still better that that beer is beer when he has

it in his mouth and can feel it inside him, indeed, nowadays no one knows that beer is beer till he has done this, and strictly speaking of course this is always so, and still more strictly speaking it is still so when he has the beer inside him. We understand this strict sense of "watches to see whether a thing, *e.g.* a winner, is what it seems, so long that there is no good in watching any longer", and we understand the words 'beer', 'a rat', 'an abracadabra', and we understand them in the combination, "watches to see whether what seems to be an abracadabra is really one, and watches so long that there is no good in watching any longer". Not only that. The expressions, even when strictly used, play a useful part, *i.e.* can be used in sentences with which we tell the truth, *necessary* truth. Suppose we say, "One can never listen to a metadrummer to hear whether it is really one, so long that there is no good in listening any longer". Now of course this sentence could be used to state a matter of fact, to contrast a metadrummer with an abracadabra in the respect that while we have never come on an animal which for ages showed the development of π and then became eccentric we have come on animals which for ages showed 1 2 3 4, 1 2 3 4 . . . and then became eccentric. But if the expressions are used *strictly* then the sentence is being used to state a *necessary* truth. It will be drawing attention to the fact that if we use words strictly then if we speak of a man's watching an animal to see whether it is really a metadrummer, so long that there's *no* good in waiting any longer then we shall be contradicting ourselves. And because such use of 'waiting till it's no good waiting longer', of 'real knowledge', of 'knowledge' and of 'metadrummer' or 'rat' are not arbitrary but derived from our actual use of these words we shall be bringing out by caricature something about our *actual* use of these words, about the connexion between the essence of knowledge and the essence of metadrummers and rats.

Black. And what we are bringing out is just that which is neglected by Subjectivists, by Gray, when he says, "When the Sceptic turns on the plain man and says, 'But even when you have cheese in your mouth you don't know it is cheese', then he is suddenly correcting the plain man's application of 'know' in just the case where he has been taught to say it".

It is misleading to say that the Sceptic is saying "Don't say 'know' here" just where the plain man has been taught to say 'know'. To say this suggests that the Sceptic is like a man who having taught a child to say "Union Jack" when both the cross of St. George, the cross of St. Andrew and the cross of

St. Patrick are present, suddenly when all the crosses are there says "No, that's not a Union Jack", or "Perhaps that's not a Union Jack". But the case of the Sceptic and the plain man is most importantly unlike this. True, we say to a baby "Rats" or "Fire" and point to the bushes blazing on either side of the path down which we are pushing his pram. He turns his head and finds the sight engaging. Next day we say "Fire in five minutes", and he turns his head and is fed up with us when he sees no fire and he says we are liars, and we say, "No, no. *In five minutes*", and begin counting "One, two, three, four, five", and next day when we say "Fire in five minutes" he counts "One, two, three, four, five" before he takes the trouble to turn his head. The next day we say "Fire, five miles away", he looks, sees nothing and then maybe tries counting but failing to see anything worth mentioning he begins to abuse us as before and we say, "No, no, five miles away not five minutes", and hurry him along counting "One, two, three, four, five" and pointing to the mile stones as they flash past. Arrived at the spot we shall, if we are lucky, find the fire still burning but we may find only ashes and then we shall have to go through the business of showing the baby how fires die down to ashes and thus explaining that there was a fire here at the time we said "A fire five miles away".¹ If now one day when we and the baby find ashes and everything and he says "There, I was right when I said 'There is a fire five miles away'" we turn on him and say "You don't know", or "You oughtn't to say 'I was right' but 'It looks as if I was right', you ought to say 'Probably'", then this is a typical philosophical *turning on* someone and it is true that we are refusing to let him say "There was a fire" and "I knew there was a fire" in a case which appears to him to be and may appear to us to be, and may in fact be, just like those cases in which before we have encouraged him to say these things. But while we have taught him that given his data that this is a flag bearing (1) the cross of St. George, (2) the cross of St. Andrew, (3) the cross of St. Patrick, nothing can be allowed to upset his conclusion, this is just what we have *not* taught him in the case of the fire. Indeed we have never

¹ The same sort of explaining gives the meaning of "Bob has a bee in his bonnet" or "has a new engine on the brain", i.e. the explaining of psychological statements, though here the teaching has a double aspect: (1) we explain to the baby that he needn't expect to see an engine on Bob's head only to hear him keep on saying, "A new engine for Christmas", but (2) before the baby really understands we shall have to add to our explanation, "You remember how you could think of nothing but a new wheel-barrow before your birthday".

set out any list of things about one time and taught him that then something about another time is true no matter what further data he obtains. We have taught him that everything which tells against "That was a Union Jack" tells *equally* against "That was a flag with a cross of St. George, cross of St. Andrew and cross of St. Patrick". Now on the contrary there is *no* statement about how things now are, *i.e.* seem, such that we have taught him that everything which tells against "There was a fire" tells *equally* against that statement. This is what we are emphasising when we say "You oughtn't to say that you know there was a fire".

White. But we are doing this in a very confusing way, we are not playing fair and we are suddenly altering our way of speaking. It is true we are not as the Subjectivist suggests breaking a definition, severing a connexion between symbols which ordinarily is absolute, infinitely strong, but we are infinitely weakening an infinite set of stronger and stronger though never infinitely strong connexions. For we are weighing the confident tone differently, we are using the confident tone with infinite strictness; that is, only when no further data can come in; that is, never with statements for which further data can always come in. And we are using the prefix 'I know', which is a substitute for the confident tone, with absolute strictness. We are not thereby refusing to apply an expression where conditions necessary and sufficient for its application are present; it is true that the sets of conditions, of data, which we define, are none of them absolutely connected with the statement we question. Therefore we never break an infinitely strong connexion but we infinitely weaken stronger and stronger connexions and we do this in a way very confusing to the baby—and to ourselves. For even if we say "You don't *know*" as opposed to "You *don't* know" the fact remains that the words we use, as opposed to the emphasis we use, are those we use when we have important adverse information not available to the baby. Even if we thus carefully emphasise 'know' or say "You oughtn't to say that you know" it is still confusing. For these are words which we ordinarily use when we have noticed that the baby hasn't paid sufficient attention to a feature of what was before him which should have made him suspicious. It is true that our new use grows out of such a scientifically cautionary use. But it is a degenerate offspring; for it reflects no different suspicion on our part. We are not being practical at all. We are emphasising a subtle feature of our use of 'know' and of the confident tone and of the future tense and of

thing-worlds, we are bringing out a connexion between the essence of things and time and knowledge. We are doing this in a very surreptitious way, and this the baby and the bloodstock breeder very properly bring out by asking what price we are prepared to take about there having been a fire, about the colt's being a Tetrarch, about the rat's being a rat.

If, as a reason for our dubious tone where no one else speaks dubiously, we say "Knowledge, real knowledge, requires the knower to really know the whole pattern it is claimed he knows", then although we are not breaking an absolute connexion, denying a correct definition (because the only one we deny is the Subjectivist's incorrect one), we *are* trying to create one, we are offering an incorrect definition. For though the Subjectivist is wrong in saying that to really know the better sets of data suffices, the Sceptic is wrong in insisting that knowledge of all the data is necessary. As to why the one asks too much and the other too little and as to what it is that *is* necessary—to answer these questions is to look for the secret of these very old temptations, the temptation to say that we can never know what lies behind what seems and the temptation to say that to know what seems is to know what is, the first an endless suspicion, the second a lying anodyne. And that investigation we must postpone. To repeat: If a Sceptic defines "real knowledge of a thing as knowing all the endless pattern of it" then he misdescribes our use of 'know' and misdescribes it in a self-contradictory way whatever the illuminating things he may thereby be doing.

He may proceed more subtly. If he never tells what perfect knowledge is and never demands a view, whether prospective or retrospective, of all things for ever, but merely for ever demands a better view, then he not only does not break a definition, he also does not offer a wrong one, much less a self-contradictory one. What does he do?

Is it that, as opposed to misdescribing language, he merely misuses it like one who admits that if x is taller than y and y than z then that implies that x is taller than z and admits that Henry is, in fact, taller than Bert and Bert than Alfred and yet raises his eyebrows over our conclusion, Henry is taller than Alfred?

What he is doing is something like this, and it is misusing as opposed to misdescribing language; but it is different and less crude. "Somewhere beyond the seven seas lie the Islands of the Blest." Scepticism is superstition with the signs reversed. The superstitious man says, "We can never know that there

aren't fairies ". Whatever we do he says, " That doesn't prove there aren't any ". And he is always right. He never admits a statement and denies what follows from it. What he does is to raise his eyebrows and say, " May be, may be not ", where none of us would. We remember the man who never said, " To know that there is a measles germ we should have to see the invisible ", but always said, " Still we don't know that there is a measles germ "; and we remember the man who never said, " To see an event we should have to see it in an instant ", thus self-contradictorily misdescribing our use of ' see an event ', but always said, " That took too long ". Grown up people when asked by children " When are we going to the circus ? " never reply " Never " but always " Some day ". When we are seven or so we are reassured by this but in time we come to understand.

(To be continued.)

II.—ANALYTIC STATEMENTS IN SEMIOSIS.

BY JOHN R. REID.

WHAT are analytic statements? How are they to be distinguished from synthetic statements? Are analytic statements tautological? In what sense are they certain or necessary? Or are all statements contingent and problematic? What operational criteria do we have, if any, by means of which we can ascertain, in a given case, whether a statement is analytic or synthetic? In this paper I try to formulate, using a more or less "natural" language, some brief answers to these questions.

First, a tentative statement as to the status of analytic statements in the process of semiosis.

Accepting in a general way the distinctions between the pragmatic, syntactical, and semantical dimensions of semiosis (as recently formulated by Mr. Morris), I suggest, by way of preliminary orientation, that within the syntactical dimension of semiosis, a statement is "analytic" if the denial of it involves a contradiction; that within the pragmatic dimension, a statement is analytic if our habits of operating with it, our intents and interpretants with respect to it, are such that when faced with a negative instance, we shall consider this fact as not requiring us to alter the statement asserted, thus limiting the class of empirical factors which are relevant to the "correctness" of what is asserted; and that within the semantical dimension, a statement is analytic, if our concept of its *complete* empirical subject (the total *referent* indicated, in a particular case, by the semantically meaningful terms in the statement) is such as to "include", by semantical rule, some quality or relation which is, thereby, *also* referred to when the statement is asserted.

While there are no graphic marks intrinsic to a sentence (occurring in a natural language) which determine infallibly whether it is analytic or synthetic, any quantification of the subject (other than universal, which is usually ambiguous) is ordinarily interpreted as meaning that the sentence is intended by its user to be synthetic, as does likewise the introduction of any space-time qualifications or the specification of any external relations as necessary for its verification. In other words, analytic statements are usually said to be validated *simply* by being *correctly* understood (a psychological test, notice); whereas synthetic statements, having subjects and predicates or other-

wise related symbolic terms with *independently* specifiable meanings, must not only be understood correctly but *also* tested empirically by making suitable observations at relevant place-times. Thus, while both kinds of statements admittedly require "proper" interpretation, only synthetic statements are said to require, for their verification (or confirmation), observations of "contingent" matters of fact. In my opinion (which I try to support in this paper) this conventional view of the matter rests upon inadequate contextual analysis and gives rise in practice to a good deal of misleading abstract verbalism. For just as no sentence is *self-evident*, so no sentence is *self-interpreted*. Any sentence *qua* understood (*i.e.* any statement or proposition) requires cognitive interpretants for the terms constituting it, including such "formal" terms as *not*, *or*, *if*, *then*. That is to say, we must either *stipulate* rules for these terms or *assume* customary rules, both of which procedures, whatever their differences, equally presuppose observations, discriminations, selections, manipulations, transformations—in short, the total process of semiosis.

However, before proceeding further with the analysis and exposition of our own views on this matter, it may be useful to consider some of the more or less common and intelligible ways of speaking about "analytic propositions".

(1) Analytic propositions (of the subject-predicate form) explicate their own subjects by analysing and making explicit either what *I* have meant, do mean, or shall mean by the subject-term, or what *I* think some *other* persons have meant, do mean, or shall mean by it. But such an analysis, explication, or prediction makes a truth-claim, and is, accordingly, true or false depending upon the contingent linguistic and psychological facts referred to by the statement. So interpreted, therefore, such a statement is not certain, *a priori*, or necessary: its results are problematic in outcome and contingent in their application to any actual statement. I might have meant something different from what I do mean by the subject-term and other persons very likely *do* mean something different from what I—usually with extreme difficulty and little confidence—gather they mean by it in any philosophical discussion. Moreover, the Socratic clarification of my own intent frequently surprises me with its discoveries and usually leaves me (as it did Socrates) still a *little* confused (giving myself the benefit of my doubts) as to what, precisely, I do, and do *not* "mean"—in any one of many senses of this intolerably ambiguous term; and my explication of the "logical content" of my concepts, as well as my efforts

to communicate this content (no more, no less) to other minds, are so far from being easy in method or assured in their outcome that such critical activity is likely, as Hume found, to induce "the vapours"—a functional disorder in which the philosopher has analysed so carefully the hot air which he produces that he can no longer re-inhale it with a healthy degree of self-satisfaction.

(2) Analytic propositions merely "show forth" the meanings of the terms in them or illustrate the verbal habits of those who assert them. Such statements, accordingly, "tell us nothing" (we are told) about "the world", but only about our own (or somebody's) habits and intentions. This kind of statement is itself analytic (perhaps) in the sense here suggested. For if "the world" is "all that in any sense *is*", then our habits and intentions are a part of the world; on the other hand, if they are (by definition) excluded from the world, then the statement that "analytic propositions tell us nothing about the world", tells us nothing about the world, but only about some positivists' syntactical habits which are not "in the world". Whether this excludes the "philosophical activities" of these highly vocal persons from "my world" is an obscure or perhaps merely a metaphysical or linguistic question. In any event, if so-called analytic statements either "express our cognitive intentions" or "illustrate our verbal habits" or "give us information about language" they *do something* which in principle can be checked by empirical methods; and if such statements give us information about *anything*, these statements *may* be false and are therefore not certain or necessary.

(3) Analytic statements are sheer tautologies. To say that, S_1 , "All bodies are extended" is only to say that "All bodies are bodies". That this latter "statement" if we call it such, does not amplify our knowledge of bodies, I suppose we shall all agree; but I should go further and say that it does not even tell us anything in particular about the use of the term bodies as distinguished, say, from the use of the term "minds" or "triangles". Nor can we so much as say, significantly, that "All bodies are bodies", taken in isolation, "correctly exemplifies" certain widely followed syntactical rules or logical principles; for this latter interpretation would require for its representation in symbols a series of *further* statements ($S_2, S_3 \dots S_n$) which would clearly make factual claims about intricate and subtle matters, claims which would be hard to verify, would give rise to logical disputes difficult to settle, and would, in any event, purport to give us some kind of knowledge about our own or other persons' intents, habits, and rules; and such "knowledge"

cannot be vouchsafed for, nor certified by, the original tautology itself. But we may doubt that any rational mind ever seriously or wittingly asserts, utters, or mouths (whichever is the "proper" word!) such completely empty tautologies. Such statements appear to be explicit tautologies when we simply look at the *marks* which constitute them, but *as such* they neither assert nor express nor illustrate *anything*, *i.e.* the marks are not symbols. Tautological symbolic forms are actually used, in logical contexts, in order to exhibit some given relation between statements as a case of some more general rule (or "principle"), thus logically sanctioning our intellectual progress by showing that we have merely repeated, in whole or in part, some former assertion, *i.e.* have *not* made any "strictly logical" progress. Or tautologies may be used in ordinary discourse with some quasi-moral or directive purpose in mind, as when I take it upon myself to remind some person that "business is business" (and not a Sunday-school picnic) or that "war is war" (and not an exercise in ethical syntactics) or that "women, after all, are women" (and not disembodied spirits who require no support).

On this third interpretation, an analytic "statement" asserts nothing, and should not be called a statement. But just as a schizophrenic word-salad says nothing (which *we* understand, at any rate) but tells the psychiatrist volumes (mostly just what he has *read* in them), so also the uttering of a tautology may be a natural sign-function which, being so construed, truly mediates in a particular context many useful inferences, such as, that the person is an unconscious metaphysician, is subject to echolalia, has some purpose of which he is probably unaware, must be very unhappy, is a logical positivist explaining what is wrong with philosophy, and so on. But such excursions into descriptive pragmatics, while sometimes of great clinical and practical significance, are often said by very clear minds to be logically irrelevant. We may agree with these critics if they only wish to remind us that there is a distinction between, on the one hand, P_2 's taking P_1 's statement, S_1 , as a natural sign-function referring, *for* P_2 , to something about P_1 's *to him* "unconscious motives", and, on the other hand, *what* P_1 consciously intends to refer to and assert by means of S_1 , if either P_2 or P_1 knows or can find out what this *is*. This distinction is of course important and remains, in theory, more or less clear: indeed it may be, as many philosophers would doubtless assert, a distinction which underlies and is necessarily presupposed by *any* intelligible discourse—for instance, the psychoanalyst's explanation (if this *is* intelligible) of the "functional significance" of the patient's

statements within his own psychic economy, "statements" which are construed by the psychoanalyst as symptoms. But all of us know that, in practice, this distinction is not unequivocally applicable to many cases *if* we demand that its "holding" in any given case, be a public fact which can be scientifically established by interested and reasonably competent investigators.¹ But the distinction is "real" enough—merely idle or safely ignored for some purposes.

Our analysis of these various interpretations of analytic statements leads us to the definitional conclusion that so-called "analytic statements" may be (1) empirical generalisations about word-usages, the writer's or other persons'; (2) confusing "illustrations" of we know not what, exactly—perhaps our usual ways of talking, if not simply our momentary cognitive intent; and (3) sheer tautologies. On the first two interpretations, analytic statements make truth-claims, and hence may be false; on the third interpretation, they, as tautologies, say nothing, are unassertable.

Whichever one of these contrasts in meaning between analytic and synthetic statements we select and try to formulate as *the* logically crucial distinction, the criteria should be such that in practice we can apply them to statements. Thus, pragmatically considered, it is of vital importance to know what the asserter of a statement *will do* when faced with a negative instance. If, for instance, after saying that, S_1 , "All Christians are just in their dealings", will this speaker respond to any doubtful case which is pointed out to him by answering that, S_2 , "If any person, presumed to be a Christian, is in fact unjust in his business dealings, then it follows that, whatever this person's church affiliations, religious practices, or professed beliefs, he is not, indeed *cannot* be, a Christian", then we know something very useful about the way in which S_1 functions in this speaker's discourse or philosophy. We should, in fact, have an instance of what I earlier meant by speaking of a statement as analytic in the pragmatism dimension of semiosis.

¹ A good example of this ego-symbolic predicament which nearly paralyses some philosophers, but which some others verbally transcend with the greatest of ease, is afforded by a statement in Prof. Blanshard's (*The Nature of Thought*, Vol. 2, p. 404) reply to his own formulation of what he calls the extensional interpretation of syllogistic reasoning: "Now if any one charges me with meaning this when I state the principle of the syllogism, I can only plead not guilty." In general, the facts seem to justify us in saying that any "philosophical analysis" of any statement which asserts that the analysed statement "means so and so" will be greeted in some quarters with such "rebuttals".

If we are considering a given statement pragmatically, it is not enough to know the syntactical rules supposedly governing the statement: we need also to know whether or not a particular writer is acting in accordance with the syntactical rules. Such knowledge is of course problematic, and is not furnished by our understanding of the *syntactical* meaning of the distinction between analytic and synthetic statements. But is a knowledge of operational procedures by means of which we can effectively test whether or not a given statement falls in one or the other logical category irrelevant even to the correct syntactical interpretation of a given sentence? Do we not need *some* material knowledge in order to *apply* a "formal" test? If we do not know *how* to apply the test is it a "test" at all? Here we face a most serious methodological difficulty. Looking at the matter syntactically, it might be argued that we cannot know *what* operations *are* "relevant" until we have specified the logical distinction we intend to adhere to as constituting the difference between the two sorts of statements. On the other hand, viewed pragmatically, such a "logical" distinction appears to be verbal and otiose unless in our handling of *as yet unclassified* statements we have some usable *test* for distinguishing the one sort from the other—an *inapplicable* "distinction" being for all practical purposes as bad as, if not worse than, none at all. Furthermore, the problem is awkwardly complicated by the fact that in practice it makes a great deal of difference whether P_1 is classifying his *own* statement or first *interpreting* P_2 's cognitive intent and *then* classifying P_2 's statement by reference to his own *or* to P_2 's rules. But purely syntactical "knowledge", if any, will of course not enable P_1 to ascertain P_2 's intents or the rules which (if consciously any at all) he is following, with the result that either P_1 's or P_2 's possibly clear-to-him distinction is *inactively* suspended in the thin air of "pure" logic, which neither sees, tells, nor understands anything. If P_1 is a socially oriented pragmatist interested in mutual understanding and effective co-operation between human beings, he is thus stymied at the outset, and being neither a logical machine nor an esthetic idiot he is likely to feel uncomfortable about it. Here we have all the makings of another philosophical headache.

If we turn to the question whether analytic statements involve the semantical dimension of semiosis, we become entangled in further doubts and muddles. In considering this matter, we must first clear up a frequent ambiguity. It seems plain that any assertions, by means of higher-order statements, *about* statements will involve cognitive references to these object-statements

having distinguishable elements combined in various structures. But it may be doubted if the object-statements referred to must themselves have interpretants by virtue of which they *also* make references, *i.e.* point or designate. Now the distinction here involved is of course relative to context; that is, we cannot say, except relatively to a specific context, whether a given sentence is functioning as a higher-order or a lower-order statement. But I think we can say that *any* "statement"—*i.e.* any symbolic construct by which a mind expresses any kind of cognitive claim that can be understood, verified, confirmed, or (even formally) certified—does make a reference of *some* kind. The reference may be either to concepts or to other symbols, both of which are possible *objects* of intent that, by definition, *themselves* designate *qua* thought or used; or the reference may be what is usually called empirical, *i.e.* to entities which are, by hypothesis, non-symbolic. Now are we going to say that *only* statements which refer to non-symbolic characters and relations have *semantical* meaning? If we answer "Yes," then we shall be expressing a semiotic rule for the use of the word "semantical". By definition we could not then *properly* speak of "designating", by means of a set of words in use, any *other* words or statements. Such a rule, if followed, would involve the consequence that all statements about statements would only have pragmatistical and syntactical meanings, even though the object-statements talked about *might* have, relative to other contexts, semantical references to non-symbolic qualities and relations.

But as usual, however "clear" this kind of general distinction may seem to be in theory, a number of difficulties and confusions arise when we try to apply the distinction to given cases.¹

Thus if I say: "*This* object, having six equal square sides, is a cube," is my statement, which plainly makes a semantical reference, analytic? If I assert that an object, which is *perceived* to have the necessary and sufficient empirical properties required by my semantical rule for anything to be a cube, *is* in fact a cube, would I not contradict myself, contravene a semantical rule of my language, if I then *denied* that *this* object is a cube? ² Do I not recognise that this object of perception is *to be* called

¹ If from this latter result it is inferred that the distinction was "never clear, even in theory", then the critic is adopting the operational view towards "logical distinctions" for which I have been arguing.

² If it is said that our semantical reference here requires us to postulate the "identity", at different times, of the empirical cube, it may be replied that the applicability of a syntactical rule also requires us to postulate (for we cannot demonstrate) the identity of our syntactical meanings in different contexts.

a "cube" in the same direct way that I recognise that the mark *cube* is a token of the symbol-type "cube", even though the token *illustrates* its type whereas the cube is only an instance of its class? With respect to the certainty or incorrigibility or necessity of the two cases I can see no fundamental difference. Either my definitional rule or my given perception *might* have been different. Both *objects* of perception, the verbal shape and the empirical cube, have unperceived properties relative to any given perspective; and I *may* be mistaken in my interpretation (or naming) of either, although this would be more likely, I suppose, in the case of the cube. If I contravene either a syntactical or a semantical rule, I am involved in a contradiction which, given the total context, is equally "internal". Just as I *cannot* point at the group of symbols "six equal square sides" and deny that their use is certified and even, under certain conditions, required by what I believe is the syntactical rule governing my use of the term "cube", so also I cannot point at what I firmly believe to be a cube and deny that *it* is a "cube", in accordance with what I take to be the semantical rule governing my use of this latter term—although, being human, I might lie or be mistaken (or both) in either case. If I may doubt the veridical character of my perception or the rightness of my interpretation in the latter case, I may *also* in the former case; and everyone does, in point of fact, frequently make mistakes in both kinds of cases. Having accepted either a syntactical or a semantical rule, I can no more legislate by means of the rule alone, the correctness of applying one kind than the other: I can only prescribe what I shall *call* objects of a specified type; I must *decide* whether a given object *is* of the type specified and what further, if anything, I can or should do *with* it; and such a decision involves the risk of error however the object is described or categorised, *e.g.* whether as verbal or real. But while by means of a certain psychological act I can try to stipulate what a verbal mark is to mean, such an act of course has no *de facto* efficacy in preventing departures from the rule thus "laid down" in other marks. Indeed, not only may I depart from the rule or forget the rule or become confused as to my "real intention", it is not even true to say that my act can *establish* a rule of interpretation; for without postulating *habitual* interpretants for the marks physically constituting my definition, these marks are not even *for me* a definitional formula expressing a rule. Because the word "rule" (I take it) refers, solely, neither to a unique psychological event called stipulating a "meaning" (of whatever sort) nor to the *relata* which are the objects of such a definitional act, but to the

uniform recurrence of a pattern of intents and interpretants with respect to the relata in question, whether only syntactical or also semantical. Hence logical rules, if interpreted or applied, are obviously contingent upon our beliefs about verbal, psychological and social matters of fact ; and if so-called logical rules are left uninterpreted and unapplied, they are not *rules* at all but, if anything, quite meaningless entities which cannot even be significantly called "formulas" or "tautologies". Finally, the notion of an "uninterpreted system" is not exempt from our criticism ; for no one can know whether the formal signs in such a system are consistently used without pragmatical interpretants for the various syntactical terms and relations internal to the whole set of symbols operated with and upon *allegedly* according to rules.

To consider another example : if I say, "This American flag is partly red", I may interpret the statement either syntactically or semantically. For if only a flag partly red is properly called an American flag, then I know that if this flag is American, it is partly red. But my "intuition" of this "logical truth" is no more nor less empirical than my noticing that this complex coloured object before me is of the sort I call "American flag", or my further inference that in noting this complex fact about my visual perception and my verbal habits I must have noticed the red-coloured constituents of the visual object in question. In this latter case, I am only seeing what it is I am talking about, as in the former case I find, upon transforming "This American flag is partly red" into "This (partly red) American flag is partly red" I see that what is "partly red" is "partly red". In the syntactical interpretation, I perceive the repetition of the marks "partly red", that is, I perceive and then *re*-perceive the word-tokens "partly red"; whereas in the former case, when I am looking at an American flag, I perceive and then *re*-perceive the red colour in it.¹ In each case some analysis of my cognitive

¹ Thus, on the semantical interpretation, the flag as a total denotatum (or existential referent) is perceived to exhibit some red-coloured areas ; and such a judgment might be called perceptually analytic in the sense that such areas are discriminated as parts in the qualitative surface of the whole flag. This gives us a semantical analogue for the syntactical interpretation in which (say) a given predicate-term in a sentence falls within the *total* group of terms which constitute the full (syntactical) meaning of the subject-term, as set forth in articulate form in our syntactical rules. On the other hand, if we re-group or re-name the discriminated factors, whether or not symbols, which are given to us in perception, the same entities *may* be related internally (as whole to part) or externally (as whole to whole) ; but, as a matter of psychological advice, we should look out for configurational shifts and other "holistic" phenomena.

intents and perceptual contents is required before I become clearly aware of the fact that I am re-perceiving the same token or re-perceiving the same colour, which are *to be* named in accordance with a syntactical and a semantical rule, respectively.

But it will perhaps be said: The cube *may* turn out *not* to have six equal square sides or the flag I see may turn out not to be red; hence there is, after all, a profound difference between the certainty attained in, or the incorrigibility of, the two sorts of cases. I cannot in this context discuss all the epistemological puzzles which are no doubt related in a bewildering variety of ways to what I *am* trying to make out and justify. Here I shall only say that, of course, if the assertion, "The object I see is a cube", is interpreted as making existential claims referring to an indefinite number of future contingencies regarding the behaviour or discoverable properties of the so-called cube, then naturally (granting that I have some intelligence) I shall be a good deal more doubtful about the correct applicability of the descriptive term "cube" than I should be if the intended reference of the term were expressly limited to a given content, sense datum, or qualitative aspect of I am not sure *what*, if anything of the *required* sort. But whether inquiry is directed outward and forward towards various environmental events or inward and backward towards various psychological events, I am epistemically in the same kind of predicament. For the "correct" interpretation of empirical data presupposes the "truth" of certain natural laws (whatever the temporal direction of inquiry); and likewise the "correct" interpretation of syntactical data (if I do not make up the interpretation *ad hoc*, in which case it is *not according to rules* and the data are not *symbols*) presupposes the veridical character of my beliefs about *at least* the syntactical meanings of the symbols I am operating with. But such beliefs are contingent (like all beliefs) and their confirmation is contingent even if it only depends upon a correct analysis or proper interpretation of my own present cognitive intents. But in point of fact it depends upon much more—a stubborn fact which cannot be ruled out of existence by any sort of logical rules. For even ignoring the need in practice to interpret a language always conceived as *partly* common property and hence as something involving other people's habits and intentions, my belief depends upon the critical interpretation and comparison of given symbols with reconstructed and now merely posited symbols. But this is a complicated and often a bewildering business, which involves animal intent in quite intricate sets of relations with their complex terms about which not even a logical genius is likely to become

fully clear or certain in his own mind except in a somewhat halting and piecemeal fashion. Furthermore, there appears to be no escape from this human predicament regardless of the nature of the context in which we find ourselves.¹

One of my points is, then, that both syntactical and semantical rules require, if they are to be followed, that we recognise the cases to which they are correctly applicable; that such applications are always to symbol-tokens or to sign-functions (even if we say we are "thinking about" tautological *forms* or empirical *laws*), which entities appear as designatable contents in our direct experience; that while there are *some* differences (variously conceived and labelled) between these two kinds of entities, these differences are not such as to confirm the opinion that we have a formal guarantee of certainty or some kind of a *priori* necessary knowledge in the syntactical case but not in the semantical; for we have such knowledge in *neither* case, since applications presuppose, but cannot establish, their own *correctness*, which latter, therefore, is always in question if we are saying *anything*. Thus to say that "This perceptual content is red" is no more dubious than to say "Red is a colour" or "The word *red* is a colour-term" of "If *x* is red, *x* is coloured". For I recognise the syntactical truth that the word "colour" is correctly applicable to the class of tokens which includes the word-token *red* in the same way, and ultimately on the basis of the same kind of empirical justification, that I recognise the perceived surface I am looking at is coloured and is properly to be called "red". Both cases involve my cognitive intents and re-cognitions, my faith in memory and in the constant functioning of certain verbal habits, my customary belief in the truth (or successful functioning) of my interpretations of natural signs and causal sequences as well as my own and other persons' conventional symbols-in-use.²

¹ A *knowledge* of syntactical rules and their proper application to statements, like any other sort of knowledge, is chiefly if not entirely what Mr. Prall called (following Spinoza) an "aptitude of the body". ("Knowledge as Aptness of the Body", *The Philosophical Review*, Vol. XLVII, No. 2, March, 1938.) Only experts with unwavering habits, the sure touch, adequate skill, really know what they are doing, and even they are most impressive when they remain silent on the question of the meaning of what they are doing. If they do stop manipulating symbols long enough to reflect upon or talk about their own technical activities, many of them would, I dare say, offer the kind of advice which Lord Russell once reportedly gave to a student: A knowledge of symbolic logic is in your fingers; quit trying to understand the stuff and just *do* it.

² Just as a perceived (natural) red is an instance of the (empirical) group of more or less different colours called "red", so the perceived (conventional) token *red* is an instance of the (logical) class of more or less different

The only residual difference between the two cases is apparently pragmatic. If the visual content changes *too* much, *i.e.* varies too widely from the semantical norm we are following, we shall face the *need* to make a decision. Shall I call this colour "red" or "orange"? On the other hand, we do not contemplate any future contingency in which we may *need* to decide whether the word-token *red* is a colour-term; we simply take for granted that we *already* know *this* fact about our language. We and other people who speak English correctly *say* that *red* is a "colour-term", and that's all there is to it. But is it? The rules of "correct" English are not exempt from change (in fact they change frequently) and we cannot make them so. We can only refuse, on a given occasion, to alter what we *believe* is our customary mode of speech. The syntactical rules may *possibly* change; the only impossibility, I suppose, is that a specific rule (*if* we know *what* it governs with *complete* exactitude—a condition never fulfilled in practice) should apply and *not* apply to a given case. But this is not saying anything at all unless we grant that any particular case before us *may* be *too* different in some respect from what it is supposed to be for it to fall under the rule we are using and appealing to for logical justification. In short, nothing ventured, nothing said—not even anything questioned.

It may be thought that in the case of the empirical cube or the American flag that I have given hostages to fortune, that I am committed to outlying ventures, that I am making problematic claims (and so on), all of which traditional sources of conflict, doubt, and insecurity I have somehow escaped in my pure logic or formal syntactics. A most forbidding technical apparatus may be invented in order to sustain this metaphysical dream. But we cannot escape the accidents of our existence by a set of definitional rules; for, unfortunately, such rules must be decided upon, set up, interpreted and re-interpreted, differentially applied in various contexts, by human organisms who are caught tokens also called "red". A difference of some importance, however, is that the word-token *red* not only is a member of the class named "red" but also illustrates the visible form of its own symbol-type. But it is true that any word-token, as such, no more *symbolises* its resemblant tokens than any red colour, as such, symbolises its resemblant reds, although any member of either group will function, within pragmatically determined limits, as a surrogate for any *other* member of the group of which it is itself a member, and also, in certain contexts, as a surrogate for any member in the *other* group. Thus, if I am driving a car and approaching a traffic intersection *either* my hearing the sounds, "Look out, the light's red!" or my seeing the red light will evoke similar sign-gestalt-expectations which will in turn mediate similar (*i.e.* functionally equivalent) means-end manipulations or adaptive reactions.

in the flux of on-going bio-social transactions in a changing environment. Similar conflicts and misunderstandings and confusions inevitably crop up in both the logical and empirical domains of human activity;¹ and I do not see that they are settled any more finally or definitively in the one realm than in the other. Even in the most formal systems contingency and doubt enter by way of such psychologically conditioned factors as are involved in the notion of primitive ideas, assertive acts, habitual rules, and some modicum of textual interpretation and explanation. Finally, it is quite plain that "validity" itself is a higher-order symbol whose *application* is justified only by previously asserted but here-now necessarily re-interpreted sentences (or formulas) in the face of data, whether verbal or non-verbal.

With respect to the general tendency of this argument, I shall be told, no doubt, that "everyone admits" that there are difficulties *in practice* in distinguishing analytic from synthetic statements, but that our ubiquitous problems in ascertaining *how* to classify logically a *particular* statement, must not be allowed to confuse our minds regarding the clarity, purity, and finality of *the* logical distinction itself, *as such*. This sort of rebuttal is always the last refuge of the verbalist. *Of course* (so the reply runs) we do not *know* for sure whether any statement is true, but we do know for sure (by the simple device of *saying* so) that any statement is true or false; we can never ascertain empirically whether any two given extended objects are "really equal" in length, but we understand nevertheless the "logical content" of the term "equal"; we could not tell you, if our immortal souls depended upon it, *how to proceed* in order to distinguish God from the world, but this operational incapacity—thank God!—has no bearing upon the "essential meaning" of these familiar terms—and so on and on, into the deeper and darker recesses of our very imperfect, if not private, dictionary. The fallacy of "ignoring context" is to be verbally offset, it appears, by the counter-fallacy of "changing the subject", and the much-abused

¹ Take a look (to cite a modern instance) at the history of Mr. Russell's logical opinions alongside the various and sundry dissenting opinions of his critics—for example Dewey's interpretation of Russell's interpretation of Dewey, and so on through several papers. Or compare Russell's use of the so-called primitive ideas of "proposition", "negation", and "disjunction" in the more or less pure logic of his "better days" in conjunction with his recent self-searchings and psychological wanderings and inconsistent renderings of the meaning (or meanings) of these symbols in *An Inquiry into Meaning and Truth*, in which work he even out-psychologises the "confused" pragmatists.

pragmatist is once again chided for exhibiting the logical bad taste involved in harping on pretty "obvious" contextual considerations which are, after all, extremely confusing when we, *qua* philosophers, so urgently *desire* to think "clearly". Let our pure intellects proceed with their *self*-appointed tasks, with none of the stoppings, turnings, and runnings-back-and-forth so characteristic of any empirical or logical *inquiry*.

But is there any such thing as "*the distinction as such*" between analytic and synthetic statements? I think not. There is only for some sign-using organism in a particular context, *some* kind of more or less clearly intended distinction, whether between sign-vehicles, or between their referents, or between some taken-as-relevant operations performed with or upon the vehicles themselves. Apart from this total process of semiosis, no distinction in meaning exists (or subsists); for no distinction noticed between any given data, symbolic or non-symbolic, could be identified, interpreted, or described, no judgmental claim about *them* could be sustained. The very reality of a logical distinction presupposes that some suitably conditioned organism is working with signs according to here-now-taken-for-granted rules. Such distinctions exist only *for* minds relative *to* their purposes *in* particular contexts. To talk conventional patter about "*the*" logical distinction between ambiguous symbols, like analytic and synthetic, is to mistake what one finds himself saying with thinking about what one actually discovers in those problematic situations in which the processes of inquiry and attempts at successful communication do as a matter of fact go on.

In this paper I have followed the method (only approved, I believe, by contextualists) of working in, around, and through a variety of not clearly demarcated problematic situations, with symbols which I have not, for the most part, exactly defined in my own terms. In thus trying to explore and understand and do justice (in some vague sense) to various ways of speaking, a writer inevitably lays himself open to the easy charge that "he does not himself know what he wants to say or even, perhaps, what he is talking about". As Santayana has remarked, some people's idea of clarity is to hear their own prejudices expounded in their own pet phrases—with intellectual results, we may add, which are a foregone conclusion. Thus I can predict (with a probability closely approximating certainty!) that the bright young positivists will consider my argument confused or irrelevant (or both). But since, on the other hand, I do not wish to create the impression that I believe loose *ad-hominem* talk clears up, let alone solves, any philosophical problems, I shall try to state

and clarify further the main conclusions which seem to me to grow out of, and to be justified by, our previous analysis.

The distinctions, which seem of importance, between analytic and synthetic statements are more obscure and slippery than a good deal of easy-going talk on this subject would suggest, at least to anyone not a confirmed pessimist. Whatever distinctions we semantically discriminate, pragmatically choose, and syntactically stipulate as "essential" in our logical theory, turn out in practice to be hard to follow in our own thinking and often impossible to identify in the writing of others, owing in part to the complexity and fluidity of natural discourse. Resulting from this state of affairs are certain nearly inevitable ambiguities which we touched upon in discussing various differences, while admitting equally patent similarities, between the syntactical and semantical aspects of statements in ordinary use. Positively, I have argued that both analytic and synthetic statements require, for their intelligibility as well as certification and verification, respectively, that given *data*, whether symbolic or non-symbolic, are responded to and worked with in accordance with symbolic *rules* interpreted by minded organisms and applied through their *operations*. Such rules cannot be given *in* the same data to which they are supposed to apply, nor can the (allegedly) rule-controlled interpretants or operations—i.e. the pragmatic factors in the context—be so given. From which it follows that no given data, including those complex sign-vehicles called sentences, can even "be" analytic statements, let alone be identified as such, apart from such a *total* process of semiosis. We fall into what may be called the Fallacy of Simple Locution if we systematically ignore or unwittingly suppress the related pragmatic and semantical factors.

The important difference, pragmatically, between analytic and synthetic statements lies in the *direction* inquiry would have to take in order to certify the one or to verify the other: the one inquiry being backward-looking to the conventional rules and the pragmatic intents and interpretants lying behind, applying to, and controlling the meanings of, the sign-vehicles in use; the other inquiry being forward-looking to the facts and natural laws which are contingent relative to the semantical (or factual) meaning of the sign-vehicles in use. The first inquiry is required in order to *find out what* is being said and what *would* certify it; the second inquiry *assumes* that we *already* know what is being said, and are only trying to discover what would verify it. The conclusion of either inquiry, whether to discover the relevant meanings or the relevant facts, is equally empirical, contingent,

dubitable. For I cannot by setting up a definitional rule, whether syntactical or semantical, establish the certainty (a pragmatistical term) or the necessity (a syntactical term) of *any* statement. I can only say something like, "*If* I am not mistaken, this pattern of marks before me is here being used as a vehicle for the kind of statement I have agreed to call (or this author has said that he calls) 'analytic'." But I cannot infer from this conditional statement that "I am *not* mistaken". This categorical statement is an expression of "animal faith" or (in Humean language) of my firm and vivid feeling at the moment; and, as such, it may of course be empirically well grounded. But even though it may be argued that I *must* assume that I know what I mean by *some* of my statements in order to inquire into the meaning or truth of *other* statements, this generalised so-called formal necessity of discourse does not justify me in saying of any *particular* statement that it is here-now being *correctly* interpreted.

Furthermore, if the applications of my definitional rules are uncertain, then so is their "meaning"; for it is only as they are functionally related to appropriate *cases*, whether symbols or not, that rules have meaning or indeed *are* "rules". This is the crux of the matter. For some philosophers want to say that the rule must only be "in principle" applicable in order to have meaning. But a rule only *becomes* intelligible when it is defined through being connected with the actual contents of intentional acts, however these contents are further characterised; and a rule only *remains* intelligible with respect to the outcome of future similar applications. When it is isolated from such ostensive sources and operational tests of its meaning, *it* is no longer, in any intelligible sense, a "rule" at all: it is no longer even a symbol, let alone a definitional rule governing the meaning of such a sign-vehicle as (say) "analytic statement". If this state of affairs is said to constitute a dilemma, I can see no way out of it but inanely to repeat "I now mean what I now mean what I now mean"—which would only "mean" that Santayana's esthetic idiot now had a dialectical partner.

Various differences (which I have not investigated in this paper) between conventional rules and natural laws remain important relative to certain stages of inquiry, as do various more or less clearly intended contrasts between analytic and synthetic statements. But if the word "certainty" is supposed to indicate anything more than a motor-affective attitude, which is *felt* at some times by *some* philosophers towards sign-vehicles which they *believe* they are in the habit of calling "analytic

statements", then the alleged certainty of analytic as contrasted with synthetic statements, is a rationalistic myth. For if we stick to our rules, so does nature stick to her laws, and we—like nature, being processes within it—may change our habits without notice, or even without noticing it.

As to the syntactical necessity which (by definition) is made to "characterise" analytic statements, I have contended that any given member of this class of statements can be said to be "necessary" only because we *assume* that if we attempted to deny the statement in question we should in fact contravene the syntactical rules of our language, contradict ourselves, and so "say" nothing but only make a noise. Now I have not urged that we forfeit our right to be called "rational" animals, in accordance with Aristotle's normative and somewhat optimistic definition, by trying vainly to break this rule: rather, I have called attention to the predicament that if, by any higher-order statement, S_2 , we assert that any statement, S_1 , is "analytic", S_2 is synthetic, problematic, contingent. Furthermore, I have argued that if we assert that the status, in this respect, of S_2 has no logical bearing on the necessity of S_1 , that we are then forced, by a process of successively eliminating alternative interpretations, to the view that S_1 is a sheer tautology which expresses *no* intelligible claim whatsoever; and finally—because of the nature of symbolic *rules*—that *such* a "tautology" cannot even be, let alone be *proved* to be, formally "correct". In short, the conditions of sign-usage are such that no significantly assertable statement is self-warranted. For every sign requires interpretation; but to interpret is to relate the given sign-vehicle to something more than is ever *totally* given to a *single* act of intuition. Yet without such interpretation there is only some blank "that" (we know *not* "what") which the living activity of thinking, by altering its relational status and mode of functioning, can alone transform into a *sign*, whether of the sort to be called analytic or synthetic.

III.—CRITICAL NOTICES.

A Treatise on Knowledge. By A. H. SMITH, Fellow of New College, Oxford. Oxford University Press, 1943. Pp. vi + 182. 10s. 6d.

MR. A. H. SMITH's pupils and colleagues in Oxford have been aware for a good many years that he was at work upon a book about the Theory of Knowledge, and have awaited its appearance with lively curiosity; now that it has at length appeared, one who belongs to both these classes may perhaps be allowed to express his special gratification. As a matter of fact, it turns out that Mr. Smith has written two books; a companion volume, called *Kantian Studies*, is to be published shortly. The present work, as the title of its companion suggests, belongs to the left wing of the Oxford Idealist tradition. Like Professor Paton, Mr. Smith acknowledges Kant as his master, and his predecessor is T. H. Green, rather than Bradley or Bosanquet.

The book is comparatively short, but it demands a considerable effort from the reader. The exposition is very closely packed; argument and counter-argument follow one another in quick succession, and unless he is in good training the reader will sometimes be left breathless behind. The style is somewhat austere, the paragraphs are long (one covers two and a half pages), and Mr. Smith, like Kant, generally refuses to pander to our weakness by the use of illustrations. Perhaps one might quote against him the remark of the Abbé Terrasson, which Kant himself quotes to excuse the length of the *Critique of Pure Reason*: 'Many a book would have been shorter if it had not been so short'. Nevertheless, if the reader does make the necessary effort he will undoubtedly be rewarded. He may not always agree with Mr. Smith's solutions, but he will certainly agree that his problems are of fundamental importance and that they are discussed in a novel and illuminating way.

In the present review, I can only hope to touch on a few of the topics with which Mr. Smith deals, and my selection of them is perhaps somewhat arbitrary; for example I shall say nothing at all of his very curious and interesting remarks about Primary and Secondary Qualities in Ch. III, and I shall omit a large part of his detailed discussion of Kant's theory of knowledge in Ch. II. Moreover, I propose to assume for argument's sake that Mr. Smith's general standpoint is correct, and shall confine my criticism to the way in which he works it out. 'Internal' criticism of this kind is likely to be more helpful to the prospective reader than the purely 'external' criticism which rejects that standpoint altogether.

The main theme of Ch. I ('Hume's doctrine regarding our consciousness of objects') is the light thrown by Hume's philosophy on

two connected problems : the distinction between consciousness and its objects, and the distinction between the real and the imaginary. On both these topics, Mr. Smith points out, Hume oscillates between two quite different views. In his first mood he refuses to distinguish between consciousness and its objects at all, and both the world and the self are reduced to a helter-skelter of sense-impressions and images ; while the distinction between the real and the imaginary is analysed into—or replaced by—a distinction between ideas which are vivid and ideas which are not. In his second mood, which is most prominent in the section on 'Scepticism with regard to the Senses' (*Treatise*, I, Part iv, Section 2) but also occurs elsewhere, he does attempt to explain how we come to *think* that there are persistent objects in space existing before and after our momentary sense-impressions ; he adumbrates, though he does not work out, a distinction between two types or levels of imaginative activity, one of which is 'the foundation of all our thoughts and reasonings, so that upon its removal human nature must immediately perish and go to ruin', while the other is mere disordered fancy ; and he becomes dissatisfied with the vividness theory of Belief, and attempts to substitute another. The contrast between these two views, and Hume's oscillation from the one to the other, especially in his discussion of Causality, is the main topic of Mr. Smith's first chapter. There are two points in his discussion upon which I wish to comment.

First, Mr. Smith holds that the distinction between the real and the imaginary is to be drawn by reference to Time. By a 'real' table we mean one which exists before and after the moments in which we are conscious of it, by an 'imaginary' table one which does not. This line of thought, he claims, can be generalised to cover events as well as objects, and even to cover events which have their being wholly in consciousness. For example, we can distinguish a real pain from an imaginary one, even though the pain is momentary and exists only in so far as it is felt. The real pain is one which has a fixed place of its own in the time-order, which need not necessarily coincide with the moment in which we are conscious of it ; for a real pain can be remembered as well as felt. The imaginary pain cannot afterwards be remembered or dated, though the act of imagining can be. Imaginary entities, whether events or objects, 'cannot be regarded as other than existences which perish when the moment of consciousness perishes' (pp. 19 *fin.*, 20), whereas real ones have a place of their own in the time order, a place not necessarily coincident with that of the act in which we are aware of them.

It is no doubt true that realities, as we call them, are in this way 'temporarily independent' of the acts in which we are aware of them. But is Mr. Smith right in what he says of the imaginary ? If imaginary entities '*perish* when the moment of consciousness perishes', this seems to imply that they are real but exceptionally short-lived. For only what exists can be said to perish. But surely the Jabberwock, for instance, never existed at all, even

momentarily, and therefore had no opportunity of perishing. It is indeed imagined to have perished (since the hero of the poem killed it) but it did not really perish, because it did not really exist.

This difficulty in Mr. Smith's argument is connected with another, which applies also to other passages in the book, for instance to the one in which he attempts to abolish 'imaginary spaces' (pp. 82-83). We commonly use the word 'imagination' in two quite different senses, and Mr. Smith—like many other philosophers—does not explicitly distinguish them. 'Imagination' sometimes means the forming and contemplating of mental images, visual, auditory or other; this is more appropriately called 'imaging'. But sometimes, and more frequently, it means imagining *that* so and so is the case. This is more appropriately described as the entertaining of existential propositions without belief; and it is usually implied that the propositions are in fact false, or at least that there is no good reason for thinking them true. The contrast between the two senses may be brought at by saying that there is nothing imaginary about a mental image; on the contrary, it is as real as anything can be. Again, when we call Shakespeare a great imaginative writer we do not mean that he was specially good at forming and contemplating mental images (though he may well have been). We mean that he was specially good at entertaining without belief highly determinate existential propositions which—whether false or true—have great æsthetic value.

Now it may plausibly be said (though I am not quite sure whether it is true) that mental images exist only when imaged, and perish when the moment of consciousness perishes. But this is because they are *not* imaginary in the other sense; they really do exist or occur, however short their life may be. But when we imagine something which is imaginary in the other sense, such as the Jabberwock, the situation is quite different. We are entertaining without belief a set of more or less determinate existential propositions. And it does not make sense to say that a set of propositions perishes; it only makes sense to say that they are false. Or we may say, if we prefer, that what we have before our minds is a set of descriptions, rather than propositions. Even so, it makes no sense to say that they perish, whether soon or late; though it does make sense to say that they apply to nothing, and never did apply to anything, either at the time when I consider them or at any other. If some such line of thought is correct (and of course it is commonplace enough) the problem of distinguishing the real from the imaginary comes simply to this: how do we distinguish true existential propositions from false ones, or descriptions which have application from those which have none? Perhaps it will then appear that Hume is even farther from solving it than Mr. Smith says he is.

The second point is this. On pages 29-30 Mr. Smith has an interesting discussion of the celebrated 'Neutral Monist' passage¹

¹ Selby Bigge's edition, p. 207; Everyman edition, vol. i., p. 200.

in *Treatise*, I, Part iv, Section 2. Here Hume tells us that since a mind is 'nothing but a heap or collection of different perceptions . . . there is no absurdity in separating any particular perception from the mind'. Accordingly he concludes that 'the supposition of the continued existence of sensible objects or perceptions involves no contradiction'. Now Mr. Smith supposes that by 'a perception separated from the mind' Hume means what we should now call an unconscious perception; and he argues that even if there are unconscious perceptions, they will not provide what is needed. When I believe that the fire continued in existence while I was absent, 'I do not think that the intervening stages are unconscious perceptions, because I reflect that I could not have the perceptions [even unconsciously] when I was absent from the room' (p. 30). But this seems to be a misinterpretation of what Hume is saying. For unconscious perceptions are after all *someone's* perceptions, even though their owner is not supposed to be aware of them. And therefore they are not wholly separated from the bundle of perceptions which (according to Hume) constitutes the someone in question; as we say, they are 'in' *his* unconscious. I think that Mr. Smith has not made sufficient allowance for the imperfections of Hume's terminology. I would suggest that the word 'perception' here is more or less equivalent to Lord Russell's term 'sensible', and that Hume's view is somewhat as follows: when we say that a sensible (e.g. a colour-expanse or a noise) is sensed by a certain mind, we only mean that it becomes a member of the series or collection of sensibilia and images which is that mind; and if this account of what 'being sensed' consists in is correct, it is perfectly conceivable that there may be unsensed sensibilia, as the vulgar imagine that there are. Hume, however, says a little later¹ that though this supposition involves no contradiction, there are conclusive empirical arguments which show that it is false, and that all our 'perceptions' are in fact 'dependent on our organs and the disposition of our nerves and animal spirits'.

Whereas the chapter on Hume is in effect a kind of introduction to the book, Ch. II ('Kant's Theory of Knowledge') is so closely connected with Ch. III ('Speculations on Knowledge'), in which Mr. Smith expounds his own constructive views, that it is not profitable to separate the two; for, as I have already hinted, Mr. Smith's own theory of knowledge may fairly be called Neo-Kantian. Indeed, it has a better right to that title than some other 'speculations on knowledge' which have in the past taken shelter under the Neo-Kantian umbrella, the more so because it is founded on a very close study of Kant's text.

Mr. Smith's interpretation, or reinterpretation, of Kant's theory of Space and Time is the key to his own theory of knowledge. Let us begin with Space. He accepts from Kant the view that Space—

¹ Selby Bigge's edition, p. 221; Everyman edition, vol. i., p. 203.

and Time likewise—has its being only 'as a content of consciousness'. Curiously enough, he does not examine the arguments of Kant for the 'Transcendental Ideality' of Space (possibly he will do so in the forthcoming volume of *Kantian Studies*). He contents himself with maintaining that Kant is substantially right in distinguishing between the form and the matter of intuition. His ground for this is that 'the enlargement or development of our consciousness of space is something which the mind has in its own power' whereas the mind has no such power in regard to the sensible elements of intuition; to enlarge its consciousness of these, it must simply wait upon experience. The reason for this difference is that 'the mind seems to apprehend intelligible principles which govern its intuition of space, and because these principles are intelligible it is able in independence of actual sensation to expand its consciousness of space without limit, and to become conscious of particular determinations of space and the geometrical properties which belong to them, these determinations and properties being again unlimited' (p. 86). Mr. Smith seems to hold with Kant—though he does not make the point quite explicit—that this is a ground for supposing that space is somehow inherent in the mind's own nature. But whereas Kant appears, at least, to think that the mind in question is the individual mind, so that there are as many spaces (and times) as there are individuals, Mr. Smith emphatically dissents from this. According to him, the consciousness upon which space—and time likewise—is dependent is a 'universal' consciousness, not the consciousness of you or me or any other finite experiment. Space, he holds, cannot be 'in' the individual mind, because the individual mind is itself located in space, in the sense that at any moment it observes the world from a particular place or point of view, a place to which other places are external. Thus, to use Kant's own language, the Empirical Reality of Space is safeguarded as well as its Transcendental Ideality; and there is one single public space, instead of a plurality of private spaces, though there is nothing in Mr. Smith's argument to show that its geometry is necessarily Euclidean.

It is commonly said that Kant himself held two different views of Space, vulgarly called the 'spatial spectacles' view and the 'empty vessel' view respectively; that both are found side by side in the *Aesthetic*; but that in the *Analytic* and *Dialectic* the Vessel view drops more and more into the background, and is at times explicitly rejected. According to the Spectacles view, space is a manner in which we intuit, a way in which things appear to us—things which so far as we can tell are not in themselves spatial at all. According to the Vessel view, space is itself a 'pure manifold'; not just a way of intuiting but something which is itself intuited. Although Mr. Smith does not use this vulgar phraseology, I think he would agree that both these views are to be found in Kant, and that they are mutually inconsistent. But he holds that the Vessel view is true and the Spectacles view false. Having made this option,

however, he unfortunately continues to speak of space as a 'form', a word which is only appropriate to the Spectacles view; unless indeed 'form' is to be interpreted in what we may call the bureaucratic sense, as when we speak of an income-tax form (this latter interpretation is suggested by the phrase 'Schema of Space' which Mr. Smith sometimes uses instead).

On the Vessel view, as Mr. Smith points out, *Space* must be sharply distinguished from *spatiality*. Spatiality is a characteristic which various perceived entities possess or appear to possess; but 'Space' is the name of an entity, a quasi-substance, though according to Kant a mind-dependent one. (Indeed the word 'Space' is in this view a proper name, like 'Jones'.) In the light of this distinction, Mr. Smith suggests a solution of a problem which has often bothered students of Kant (pp. 77-78). Kant seems to say that the mind 'bestows extension upon' the elements which make up the manifold of sense. An instance of a particular colour, *e.g.* of redness, is presented to it, and somehow or other it bestows upon it—say—a triangular shape, an area of three square inches, and a position in the left-hand half of the visual field. But why triangular rather than circular, why here rather than there, three square inches rather than thirty? Must not the colour itself have some character of its own, over and above its redness, which fits it to be endowed with just these determinate specifications of spatiality rather than others? And surely this character, like the redness itself, must be produced by the noumenal conditions upon which the manifold of sense depends? It would seem to follow that the noumenal world itself has some sort of spatial order, which would of course be quite independent of consciousness.

Mr. Smith solves this problem by 'changing the subject'. Instead of asking 'why a triangular shape (rather than, *e.g.*, a circular shape) is bestowed on this redness' one should ask 'why this particular triangular piece of space has the colour red, rather than, *e.g.*, the colour green': In thus altering one's question, one 'starts from the basis that the mind is conscious of the space-schema; there is nothing here which requires to be geometrically determined. . . . What requires to be determined is the character *other than geometrical* of the various parts of the schema.' And since no one supposes that *this* kind of determination 'issues from the basic nature of consciousness', no difficulty now arises (p. 78, *my italics*). Mr. Smith adds an interesting reflection, which reminds us of certain well-known doctrines of the late Professor Alexander. 'From one point of view', he says, 'Kant's position is almost better described by saying that space is the matter and all qualities other than geometrical are the form or aspect which sensibility bestows on space' (p. 78).

We have seen that, according to Mr. Smith, the consciousness of which Space is the 'content' is the universal consciousness, not the individual consciousness, which is on the contrary itself located

within space. He holds a parallel view about Time. Time, like Space, has its being only in consciousness. But it is not 'in' the individual consciousness, because that is itself in time. The individual consciousness has a history, and each of its acts of awareness is at a certain date as well as *from* a certain place. Time, then, as well as Space must be 'in' the universal consciousness, which has no history and no location (*cf.* T. H. Green's 'eternal consciousness').

We may now turn to Mr. Smith's views about the nature of physical objects. Here again Mr. Smith is an 'Empirical Realist'. He insists that physical objects, like the space they occupy and the time through which they endure, are independent of the individual consciousness, though dependent on the universal one. He emphatically rejects the view usually held by Kant, according to which a physical object is nothing but a complex of 'actual and imaginary presentations', and commends his occasional attempts to substitute a less subjectivist view, notably in the second edition *Refutation of Idealism*. For an object consisting only of actual and imaginary presentations would not have the permanence and publicity which an object ought to have. Nevertheless, Mr. Smith agrees with Kant, and with most other philosophers, that 'sensibles' (as he calls them) are mind-dependent, and dependent upon the individual mind at that. But if 'sensibles' are private and evanescent, how can physical objects be permanent and public? The qualities which the naive perceiver attributes to physical objects are all of them qualities of sensibles. If physical objects do not after all possess these qualities, what qualities do they possess, and how do they differ from empty regions of space? We say that a physical object 'occupies' a region of space, but if so it must possess some characters other than spatial; and what characters can they be?

Mr. Smith's answer to these questions is not easy to summarise, and I am by no means sure that I have understood it correctly. It seems to be more or less as follows:—He first points out that sensibles, although in one sense private, in another are not. For although one individual mind cannot be acquainted with sensibles sensed by another, it can know them by description. Mr. Smith adds that there is another respect on which sensibles are more than merely sensible. The systematic order in which they occur—a fact just as solid as the sense-given *qualia* themselves—is known not by sense but by intelligence. In this connection, Mr. Smith recurs to his old topic of the distinction between the real and the imaginary. It may be said that the sensibles which we actually sense are in themselves far from systematic or orderly, but are on the contrary fragmentary and intermittent, and that we can only be aware of a systematic order of sensibles if we supplement the actually presented ones by means of the imagination: a point insisted upon by Hume and—less emphatically—by Kant himself. Mr. Smith decides (rightly, I think) that although this supplementative activity is

indeed needed, the question whether it is to be called 'imagination' or not is merely one of terminology. It is in any case quite different from mere fancy. In one curious and interesting passage (p. 160) Mr. Smith even seems to suggest that imagined sensibles, no less than actually sensed ones, may fairly be called 'appearances of' objects. Just as sense is one manner in which objects make themselves known to us, so imagination (i.e. the supplementative imagination) is another. It is so to speak no mere private activity of ours, as ordinary fancy is, but the right and proper way in which objects present themselves to us when our location in space prevents them from affecting our sense-organs: just as memory is the right and proper way in which our past experiences, or their contents, present themselves to us, when our location in time prevents us from experiencing them any longer.

In the light of these considerations we may return to the question asked above: how does a physical object differ from a region of empty space? It does of course have the geometrical characters of the volume of space which it occupies. As Mr. Smith puts it, it is an 'intelligible' object. (By this he does not mean that it is knowable *a priori*. He merely means that we are aware of it by intelligence and not by sensation alone.) Moreover, it is public to an indefinite number of individual minds. But so far we have not discovered how it differs from the volume of space which it occupies. For its geometrical characters are nothing but the geometrical characters of that same spatial volume, which is itself 'intelligible' and public. We can say, in addition, that it is persistent in time and remains identical through change. Even so (though Mr. Smith omits this step) we should still have to ask how it is to be distinguished from the set of space-volumes, differing in shape or location or both, which it successively occupies.

At this point Mr. Smith's argument takes a turn which I do not fully understand. We might expect him to say that a physical object is a volume of space permeated by causal properties (what Locke called 'powers') and that it is the presence of these causal properties which differentiates the space-volume in question from one which is empty or unoccupied. It is possible that this is what he means; some preliminary remarks on page 120 rather suggest it. But it is not what he says. Instead, he refers to the systematic order of sensibles mentioned in the last paragraph. The 'intelligible nature' of the object, he says, includes 'whatever system we think belongs to its sensibles' (p. 150). (The word 'its' is difficult, and may involve Mr. Smith in a *circulus in definiendo*. He should have said 'to a certain set of sensibles', and then he ought to explain what sort of set it is.) So far, then, a physical object would appear to be a systematically ordered set of sensibles located in a volume of space; and presumably the system as a whole would persist through time, though the individual sensibles which it consists of are described as 'momentary'.

Now this looks like a simplified version of Lord Russell's theory, according to which a physical object is a series of classes of sensibilia, bound together by immanent-causal laws: a simplified version, because Mr. Smith will have nothing to do with the multiplicity of spaces and times which are the delight, and the despair, of Lord Russell's readers. But this cannot really be what Mr. Smith holds, because according to him sensibles exist only when sensed, whereas Lord Russell's sensibilia exist even when unsensed. Are we then to suppose that Mr. Smith is maintaining a form of Phenomenalism? For simplicity, let us consider a physical object which is not being observed by any one. Is the 'system of sensibles' which enters into the nature of this object, and differentiates it from a region of empty space, a system of *possibilities* of sensation, possibilities none of which is at the moment actualised? When I believe that in the next room there is a table which is not at the moment being observed by anyone, am I believing that from such and such places, located in public space, sensibles of such and such sorts *would* exist, *if* observations were to occur from those places? When Mr. Smith speaks of 'whatever system we think belongs to its [the object's] sensibles' can he mean anything but this? It seems that he cannot, if he holds—as he certainly does—that there are no unsensed sensibles. Yet there are other passages in the book where he seems to repudiate Phenomenalism. As we have seen, he criticises the view generally taken by Kant about the nature of physical objects—that they are systems of actual and possible presentations—and the attempts which Kant made to escape from this position in the *Refutation of Idealism* are commended by him as meritorious, though unsuccessful. Possibly Mr. Smith thinks that the point he has made earlier—that 'sensibles' are public in one sense though private in another—enables him to escape the objections which he himself has brought against Kant. But I do not think that he has made his own position clear.

The matter is further complicated by Mr. Smith's interesting remarks about Physical Science. One of the most important reasons, he tells us, for supposing that 'the system which belongs to the object's sensibles' is included 'in the intelligible nature of the object' is precisely that we cannot otherwise understand 'the character of the explanations of science' (p. 150). Scientific hypotheses, he says, are conceived in terms of the systematic relations in time and space of *imagined sensibles*. The relations are susceptible of the most abstract mathematical treatment, but this must not blind us to the fact that it is sensibles, and nothing else, which are the terms related by them. Yet the sensibles of which the scientist conceives, though perfectly good constituents of the object, are not the ones we are familiar with in perception. For example, the scientist conceives of 'sensibles of atoms' (p. 148. I think Mr. Smith should have said 'sets of sensibles *constituting* atoms'). Such sensibles as these are not only unexperienced; they are not even

capable of being experienced. Thus the sensibles which the physicist thinks of when *he* conceives of a physical object and explains its behaviour are not reducible to 'possibilities of sensation'; for in their case sensation is admittedly impossible. This does not worry the physicist himself, for he is concerned with the mathematically-formulable relations between these sets of 'imagined sensibles', not with the nature of the terms related. But surely it ought to worry a phenomenalist-minded philosopher; and Mr. Smith does not seem to be sufficiently worried by it. He says that the difficulty 'is not really greater than that of conceiving an object in terms of sensibles which might be experienced but are not' (p. 152); and he adds, in a Humian vein, that all unsensed sensibles whatever—both those conceived by the Vulgar and those conceived by the physicist—are alike 'fictitious'. But surely the difficulty is much greater. There is a very great difference between sensations which are in principle experienceable, though not at the moment actually experienced, and sensations (such as the scientist is supposed to be concerned with) which are even in principle unexperienceable. The difficulty will perhaps be clearer if we talk not of sensibles but of *descriptions* of sensibles. Both the plain man and the physicist conceive of the unobserved table in terms of descriptions of sensibles. These descriptions have at the moment no application: no sensibles of the described sorts are actually being experienced. But the physicist's descriptions and the plain man's, though in this respect alike, are in another respect quite different. The plain man's descriptions have had application to actual sensibles in the past, they will have application in the future, and they would have application now if observations were occurring from such and such specifiable places in public space. But none of these things are true of the descriptions used by the physicist. Thus even though both parties are indulging in 'fiction', the physicist's fictions are of a much deeper dye than the plain man's.

We may now turn to Mr. Smith's views concerning the Self. Two main points arise, and they are closely connected. One is the nature of self-consciousness, the other the relation between the individual consciousness and the universal consciousness. As to the first, Mr. Smith dissents from Kant. He holds that Kant did not distinguish sufficiently clearly between Act and Object; this led him to regard the Transcendental Unity of Apperception as something known only by description, the mysterious source of the unity and order found in the world of phenomenal objects, while the Empirical Self was merely one set of phenomena among others. But in fact, Mr. Smith maintains, an *act* of consciousness can itself be the object of consciousness; and when this happens, there is an 'identity' of consciousness and its object which is not found in our consciousness of other objects. Likewise, when we are conscious both of a present and of a past act of consciousness, 'the present consciousness and

the past consciousness are identical with the consciousness which apprehends them' (p. 110). What is meant here by the word 'identical'? Suppose I am aware of one of my own acts of thinking. It can hardly be said that my awareness of this act of thinking is *numerically* identical with the act which I am aware of; nor yet that a present act of awareness is numerically identical with a past one. Qualitative identity, on the other hand, is insufficient for Mr. Smith's purpose; for that relation might subsist between my act of consciousness and someone else's. Is it then meant that two or more acts of awareness may belong to an identical system or series (a more or less Humian conception of the Self)? Mr. Smith's language is too strong for that. For on any serial view of the Self—no matter how systematic you conceive the series to be—it could not possibly be held that the various acts which make it up are identical with one another. For the same reason he cannot mean that the Self is (in Professor Broad's phrase) a 'unity of centre', in which a number of acts are all alike 'owned' by an identical Pure Ego which is different from them all. I think that Mr. Smith's meaning is better conveyed by the word 'unity'—which indeed he sometimes uses—than by the word 'identity'. He is saying, I think, that when there is an act of awareness which has an act of awareness for its object, the two acts are unified in a peculiar manner; that when there are different acts of awareness A_1 and A_2 at different dates which *could* both be objects of a single act of awareness A_3 (whether they actually are so or not), then A_1 and A_2 are unified with each other in the same peculiar manner; and finally that this type of unity is not at all analogous to any unity found in the physical world.

There are two remarks to be made about this. First, it might be complained that it is not a solution of the problem of the unity of the Self, but merely a restatement of the problem which has to be solved. We all agree that the unity is there (why else do we use the word 'I'?) but we wish to know what kind of unity it is. To this Mr. Smith might reply that the unity is of a unique kind, and that accordingly our wish is a mistaken one; for it could only be satisfied by reducing this unique kind of unity to some other kind of unity, e.g. that of a series, which is just what cannot be done. He might add that the unity in question is perfectly familiar to all of us, since each of us is acquainted with an instance of it, so that each of us already knows what kind of unity it is. Secondly, Mr. Smith's doctrine (if I have understood it rightly) reminds us of Alexander's mysterious and tantalising distinction between Enjoyment and Contemplation, and might possibly be taken as an elucidation of it. For the characteristic feature of 'enjoyment' is presumably that the enjoying and the enjoyed do form a unity of a special kind; and this unity is of a sort which is not found in the world of 'contemplated' entities, nor does it hold between the contemplating and the thing contemplated. On this interpretation, Mr. Smith would be saying that there is really no 'problem of the unity of the Self'; we only

suppose that there is, because we assume—wrongly—that enjoyed unity *ought* to be analogous to one sort or another of contemplated unity. If this is what Mr. Smith is saying, he may possibly be right. But I think he would have made his position a good deal clearer if he had explicitly compared it with Alexander's.

Finally, we may consider Mr. Smith's account of the relation between the individual and the universal consciousness. This is obviously a crucial point in any form of Neo-Kantian Idealism. And it is one upon which Kant himself gives very little guidance. He never makes it clear whether the Transcendental Unity of Apperception is to be attributed to the individual mind or to a super-individual mind (if 'attributed' is the right word); while his phrase *Bewusstsein überhaupt*, 'consciousness in general', though sometimes supposed to stand for a super-individual consciousness, might equally well—or better—be taken to mean a character which all individual consciousnesses have in common. The majority of Kant's followers have, I suppose, adopted what I may call the 'super-individualist' interpretation. There are obvious reasons for this choice. If we say that space, time, and the phenomenal objects which occupy them are dependent upon the individual mind, we are left at the best with a number of private phenomenal worlds and at the worst with Solipsism. We are also forced to split the individual mind into two parts. For on the one hand we are saying that space, time, and the causal order of Nature exist only 'for' it or 'in' it; on the other, we are obliged to admit that it is itself in time and—in some good sense—in space also, and that it is itself subjected to causal laws, both psycho-physical and psychological. It therefore appears more economical to institute a division of labour. The task of constructing or sustaining the phenomenal world, with its temporal, spatial and causal order, is assigned to a super-individual consciousness (Mr. Smith's 'universal consciousness') which is itself neither temporal nor spatial nor subject to causality; but at the same time it is held that the phenomenal world is independent of the individual consciousness, which is indeed included within it.

This conception is not an easy one to grasp, at any rate when it is put forward on purely epistemological grounds, without any reference to the data of religious or mystical experience. Impatient and sceptical persons have sometimes wondered whether this super-individual consciousness, or Mind with a capital M, is anything more than an exciting name for a quite commonplace fact: namely the fact that *ordinary* minds are aware of a public world, can supplement each other's knowledge by means of speech and writing, and can thereby in some degree transcend the limitations imposed upon each by its particular location within the spatio-temporal order. But if it is held that the super-individual or universal consciousness is, so to speak, a genuine entity, and not merely a picturesque way of describing certain facts about individual consciousnesses, at once we

are confronted with the difficulty of explaining how the two types of consciousness, individual and super-individual, are related with one another. The individual consciousness is within the phenomenal world. It has a history, consisting of a series of acts of experiencing, each of which has its determinate date in time and—in some sense or other—its location in space. Yet we cannot say that it is itself just a phenomenon, a 'psychical object' as it were. For despite its spatial and temporal limitations it is itself a conscious subject, and has that peculiar kind of unity (referred to above) which only a conscious subject can possess. And it does not make sense to say that a conscious subject is merely phenomenal, *i.e.* that it exists only as the 'content' of another consciousness, even if that other consciousness is a super-individual one. To put it in a Berkeleyan way, the *esse* of a spirit cannot be *percipi*.

Unlike some Neo-Kantian philosophers, Mr. Smith struggles bravely with this difficulty. But in the course of his struggles he complicates it still further. On pages 169-170 we find him saying that the individual consciousness is itself 'partly universal' and 'has a universal aspect'. In the course of its intellectual development it emancipates itself, as it were, from its own particular location in space and time. 'It is conscious of the temporal and the spatial *as if* it were itself outside time and space, and it also conceives of them *as if* time and space were forms proceeding from its own nature' (p. 170, my italics). Yet it still has a 'particular aspect' all the same. It does not and cannot regard itself as being literally timeless and extra-spatial. There is no getting away from the fact that its acts of awareness do occur in time and are connected with a particular body in space. Thus the puzzle which we have to solve is concerned not just with two terms, but with three. They are (a) the particular aspect of the individual consciousness, (b) the universal aspect of the individual consciousness, (c) the super-individual or universal consciousness. How are the three terms related, if we cannot say (as we have seen we cannot) that the first two are merely 'contents' of the third?

I am not sure that I fully understand Mr. Smith's solution. It is briefly adumbrated on page 123; and it is more fully expounded on pages 178-179, the last two pages of the book, in connection with the 'spontaneous activity' which must be attributed to the individual self in so far as it is a willing as well as a knowing subject. There are, I think, two steps in it. First, just as we found that each individual consciousness 'is also universal' (*i.e.* has what was described above as 'a universal aspect') so we must suppose also that the universal consciousness is somehow or other both one and many; this implies, I take it, that the universal consciousness in its turn has a 'multiple' aspect. This contention, which is not easily swallowed, is intended to prepare for the second step, which consists—if I understand Mr. Smith correctly—in saying that the problem has been mis-stated. And indeed one can hardly avoid agreeing

that it must have been, for this proliferation of 'aspects' is surely exceedingly fishy ; it is a safe rule in the Theory of Knowledge that where the word 'aspect' is introduced something has gone badly wrong.

But how has the problem been mis-stated, according to Mr. Smith ? Apparently because we assumed to begin with that the individual consciousness is one entity and the universal consciousness another, as if they were two mutually exclusive objects in space. But in fact the universal consciousness is not 'other than' the individual consciousness in this sense of the word 'other'. So the problem of the relation between them does not exist at all, in the sense in which we thought it existed. The unity of the individual consciousness with the universal consciousness is indeed something which 'we cannot properly understand', but it is none the less real for all that, and we must make the best of it (p. 179).

I would suggest, however, that when Mr. Smith says that we 'cannot properly understand' this unity, he is doing less than justice to his own view. For this modest confession suggests that we cannot *understand* it at all. But I think he ought to say, on his own principles, that we can and do understand it in some measure, in the light of what he has said earlier about the unity of the individual self. For within the individual self too we had—or we seemed to have—a parallel problem concerning the relation between an act of self-consciousness and the act of consciousness which it is aware of. The act of consciousness, too, is not merely the 'content' of the act of self-consciousness ; it too does not exist merely as a phenomenon presented to and dependent upon the act of self-consciousness, its *esse* too is not merely *percipi*. He told us then that the two together, consciousness and self-consciousness, form a unique kind of unity, which we are familiar with from instances but cannot analyse in any other terms. Why should he not tell us now that the universal consciousness and the individual consciousness are unified in a similar way, and that this unity is of the 'enjoyment' type, which has no parallel either in the sphere of 'contemplated' objects, or in the relation between contemplation and the contemplated ?

H. H. PRICE.

Finite and Infinite : A Philosophical Essay. By AUSTIN FARRER, Fellow of Trinity College, Oxford. Dacre Press, Westminster, 1943. Pp. xii + 300. 20s.

THIS is not an easy book to read, but it amply repays the effort required for its comprehension. Mr. Farrer is candid almost to excess, laying, as he tells us, "all his cards on the table", and eschewing the conventional device of attempting to "produce the rabbit of theistic proof from the hat (or hats ?) of professedly impartial philosophical reasoning" (6). Though holding strong and

definite convictions, he has no theological axe to grind; nor can anything in his book give a handle to the charge of "servile ecclesiasticism" (vi). His closely (almost too closely) reasoned argument is entirely free from any trace of the woolliness of which Cambridge thinkers, who learnt the word from Henry Sidgwick, are too prone to accuse Oxonian philosophers and theologians. He is full of contempt for "the nineteenth century trick of leading philosophers into explicit theology up the garden path of their own presuppositions" (v). For "the theology it led to was little like the genuine thing" and, "as we now know, the presuppositions are not there". Moreover, he shows originality, both in choice of subject and in method. His aim is to make explicit the metaphysical assumptions implicit in any theistic belief, in other words to vindicate by actual example the possibility of a "rational theology". He distinguishes carefully between "Rational Theology" and what is commonly called "philosophy of religion", which he holds (somewhat cavalierly) to be tarred with the brush of Kantian epistemology, while Rational Theology is a cognitive activity specified, as are all cognitive activities, by its object, viz. God (vii). Hence any consideration of revealed theology is excluded from the start, a limitation which rules out of the picture most of what is significant for the religious life. While Rational Theology, the author holds, can yield a genuine knowledge, by way of analogy from finite experience, of God's being, of His attributes as pure spirit, and of His relation to the world of His creation—or, rather, of the world's relation to Him—it cannot justify the beliefs in either Providence or Grace (299). He is under no illusion as to the narrow range of knowledge attainable by this reversion to a type of theology that was more popular two centuries ago, in the so-called epoch of "Enlightenment", than it is to-day, when the disparagement of pure reason by Kierkegaard and Karl Barth is beguiling many who should know better to deviate from the high road of Catholic theology along a by-road which, as Dr. Inge told us the other day, leads straight to Dayton, Tennessee. Mr. Farrer's originality of method is displayed partly in the austerity with which, like Mrs. Sarah Battle (who, Elia assures us, is now with God), he insists on the rigour of the game, a feature of his book which can hardly fail to touch the heart of any Logical Positivist who ventures to peruse it; and partly in his repudiation of the claim of rational theology to be demonstrative.

Here is where St. Thomas, who alike in metaphysics and theology furnishes the groundwork for Mr. Farrer's construction (especially in respect of the doctrine of *analogia entis*), fell short of the requirements of present-day thought, as do also the contemporary advocates of Thomism. "By their rigid Aristotelianism and their insistence on the possibility of inescapable demonstration they make themselves vile in modern eyes" (vi). That is just the criticism which is provoked, e.g. by Penido's masterly treatise on "Le rôle d'Analogie

en théologie dogmatique", and which lies at the root of such objections as the Logical Positivists are likely to offer to the argument of this book. As Mr. Farrer points out in his introductory chapter (8-9) everything depends on the meaning we ascribe to "reason". A rationalist may be one who, admitting a hierarchy of being and value, seeks to explain the universe as exemplifying the highest degree of quasi-purposive significance, or he may be one who, like the Positivists planing down to an uninspiring simplicity, limits his account to what is clear and distinct, to the exclusion of all mystery, metaphor and logical imperfection. Mr. Farrer adopts the former view. For him, "rational means to be worthy of a rational mind". God, *pace* Descartes (on whom in his earlier chapters he has many pertinent things to say) is not an object of clear and distinct apprehension. The matter of rational theology is, from the start and at long last, obscure, belonging to what is "crepuscular" in our experience. The task of reason is indeed to clarify as far as is possible, and Mr. Farrer is prepared to go a long way with the Positivists in this endeavour after clarification (see, especially, chs. vi to ix, where he deals at some length with "logical prolegomena" and "problems of language"). Indeed, if he is angling for any fish, it is the Logical Positivists whom he would most gladly draw into his net. But, here as elsewhere, he has no illusions as to their shortcomings; notably in this, that they attempt to reason about God as they would about any finite object, ignoring the basic principle that the activities of reason differ in accordance with the differences of the object on which they are directed. Between reason thus broadly understood and faith there is no intrinsic opposition. That faith is not restricted to religious revelation, but enters "into our common thinking" is exemplified throughout this book. "The man who is prepared to accept the identity and freedom of the self and the objectivity of ontological judgements is already in principle doing what at a higher level the believer in God does" (vi).

But the originality of Mr. Farrer's method lies chiefly in his reversal of customary procedure in his postponement of Dialectical argument in support of Theism to what he calls Analysis, *i.e.* the statement of what is implied in the theistic position, regarded as a hypothesis quite apart from the question of its claims to truth. This distinction, which is closely akin to that of Pascal between *l'esprit de géométrie* and *l'esprit de finesse*, though it governs the whole structure of Mr. Farrer's book, is not always as carefully observed as for clearness' sake might be desired. Though Part I is specially devoted to Analysis and Part III to an examination of the dialectical proofs of God's existence, Dialectic constantly intrudes into the earlier chapters (*e.g.* 33, on Absolute existence) which are consequently far from being as non-controversial as we are led to expect (5-6). What then does analysis reveal about the implications and presuppositions of Theism? Two things chiefly;

First, "the Cosmological Idea", i.e. God as the Creator of all things, possessed of the character of being an existent in perfection (2, 31), and, as unique, standing to finite existents in a unique ontological relation (7). The main theme of Analysis is to determine the nature of this real relation between the Infinite and the finite. It is not that of Causality, understood as sequence in accordance with rule, nor that of logical implication, nor that which rests on induction; for Induction yields no more than probability (98)—yet what about "empirical certainty" handled recently by Mr. Malcolm in an able article in *MIND*?—and a relation expressible by the conjunctive 'and'. It is a unilateral relation of creative activity *ex nihilo*. Secondly, our knowledge of God and of the Cosmological Idea rests at all points upon analogy from finite experience.

"If the mind is able at all to pass from the notion of the finite to that of the infinite, it is plainly required that the two terms shall be comparable, and in particular that the finite should afford analogy to the infinite" (27). The analogies must be sought in the interior life of finite selves. We catch here the clear echo of St. Augustine's famous dictum, *Noli foris ire*. In this connexion, the author has much to say that is important on metaphysical relations (ch. ii), on the hierarchical scale, both in nature and within the self, which furnishes the creaturely analogies for the characters which give content to the otherwise vacuous form of infinite existence (chs. iii and iv) and on the way of negation as a purification of theses analogies from their inherent limitations (ch. v). "The motive-force and spring of the cosmological scheme is found, not in the nature of simple elements as such, but in the nature of finite substances, or agents, e.g. selves" (20). That is why Pantheism fails to account for the relation of the world of phenomena to God; "it uses the denial of our own substantiality as an expression of the omnicompetence of the divine substance, not noticing that this means the pretence of sawing away the branch on which we really sit" (*ib.*).

To confirm the theistic hypothesis thus propounded by vindicating from experience the notion of substance as a unit of activity and inferring therefrom to God's existence as Absolute agent in the cosmological scheme is the main task of Dialectic. We know God only as the agent of His activities in the creature, and "creation", i.e. the bringing into existence of finite substances, "posits the absoluteness of its first term, apart from the relation" (61). The first concern of Dialectic, therefore, is to prove that there are finite substances and to determine the nature of the activity in which their substantiality consists. This is the reason why an examination of the second problem, i.e. of the proof of God's existence, is deferred to the closing part (III) of the volume, entitled (with no reference to Kantian terminology) "Dialectic of Rational Theology".

We cannot follow either of these lines of dialectical reasoning in

detail. To attempt to do so would land us in a travesty of what constitutes the main body of Mr. Farrer's argument. As regards the examination of the traditional proofs in Part III, it must suffice to indicate the general principle of classification. All the proofs are variations on the common theme of St. Thomas' *quinque viae*, skilfully reformulated in language more congenial to the atmosphere of contemporary thought. The author's method is to "exhibit a co-existence of elements which is revealed by analysis of the finite order" and to show that the given form of their co-existence "is intelligible only if God exists as the ground of such a co-existence" (262). Here a jump of metaphysical faith is requisite, in order to intuit the finite co-existence as "the splintered image of God's existence, in whom the distinction of elements in its finite form is transcended". The arguments fall into two groups, according as the distinction of elements is one common to finite nature in general ('usiological' arguments) or is discovered in the particular nature of man ('anthropological'). These two lines of reasoning presuppose one another; and all the forms of each of them have as their basis the fundamental distinction of essence and existence. For all the theological arguments must ask in some form the question "Why is it (the given existence) so"? (possessed of this essence?) and must answer by concluding that it was so made by a being about whom the same question cannot be asked, a being in whom existence and essence are one and the same (265). The assumption of degrees of reality and existence (265 f.), which is here of crucial importance, is hardly likely to pass unchallenged. Certainly existence is not a common genus, exhibited univocally in union with a plurality of essences; but Mr. Farrer would surely have been wiser to have stated the distinction as one of 'modes' of existence rather than as one of 'degrees', so as to make explicit the basis of analogical argument. All the arguments that have any plausibility—for none are rigorously demonstrative—are therefore *a posteriori* and variations on the traditional cosmological proof, while the argument from design and the moral argument are relegated to a secondary position. The moral argument is "a piece of dialectic which has gained more notoriety than it deserves, on account of the decay of metaphysics" (12), and, since it rests on evidence drawn from the 'interior scale', is anthropological. The ontological argument is ruled out of court early in the discussion on the ground that the definition of God as *id quo majus cogitari nequit* presupposes the scale of being and a supreme term in the scale. "The idea of God as the otherwise undefined notion of supreme term must derive its significance from the terms and structure of the series which it heads. These terms and this structure are known to us from the finite world if known at all" (12). The argument, if argument it be, is thus *a posteriori* and cosmological. Mr. Farrer is surely right here. But why does he stigmatise the argument as "heretical"? It was rejected by St. Thomas and

has always been cold-shouldered by orthodox theologians; but has it ever been visited with authoritative condemnation?

The nerve of the author's dialectic is his vindication in Part II of the doctrine of finite substance, as exemplified in the human self and particularly in its free creativity in acts of will. This he tells us is "the most ambitious and no doubt the most questionable element" in the whole enterprise. "While the scheme of theological analogy seemed to require analysis rather than reform, the doctrine of substance" which "supplies the whole material with which rational theology works and on which it builds" had "to be reconstructed" (vi). He admits frankly that the concept of substance is commonly regarded as a back-number in philosophy; after producing "metaphysical grotesques in the seventeenth century it has been dying quietly enough" (63), to-day it is "not only buried, but its very ghost is laid". Yet, if a rational theology is possible, a case must be made out for its resuscitation, and the evidence must be sought not in logic, as of old, but in acquaintance with reality (65). We must not be deterred either by the avowed obscurity of the concept or by the impossibility of validating it by the accepted method of observation of the phenomena from without. We must "enquire within" (106) to see if the obscurity allows a measure of clarification. For consciousness is able to reflect directly on its own process and enter 'from within' into the very arising of what follows out of what preceded it, obtaining (what Hume denied and what it is Whitehead's crowning merit to have asserted) an immediate intuition of "causal efficacy". If this contention can be made good, "there is an activity which really gives rise to events, and does not merely, as the advocates of the 'outward view' maintain, precede them according to rule"; and, if this activity can be aware of its own action in so doing, it seems that this might be the only conceivable case in which real connexion (such, that is, as offers a basis for substantial unity) could be detected, whether that case is obscure or not (107). Mr. Farrer finds this case uniquely exemplified in the free act of will, wherein our own conscious act creates its own successor (108). His definition of will as the "self-actualising potency of a project" (169) is supported by a long and careful psychological analysis, which forms the most impressive and constructive section of the book (chs. x-xiv). There are levels of will, of which the highest and the most intelligible is exhibited in the moral struggle; the lower levels of impulse and desire being (save in the rare instances of 'pure' impulse) volitional, though not equally so, and remaining to the end greatly dark to our apprehension. The act of practical reason, whose principles are conspicuous, is the proper clue to the partial comprehension of the nature of the lower and obscurer acts of will (170). In the unity of the act of will we find the key to the problem of substance; for it posits its own final phase as a complex which exists as a whole and not merely as an aggregate of its several constituents (*ib.*). Moreover, as the

author goes on to show, the unity of the single act of will prefigures the more complex unity in the series of such acts that forms the 'self' (chs. xv-xix). For the external observer, the problem of the unity of the self issues in a Hobson's choice between the vacuous form of the 'pure ego' and the indefinite multiplicity of the flux of psychical occurrences. "The self", he concludes (229), "is a continuous intellectual and creative activity which proceeds by concentration into successive particular acts. It is the substantial connexion provided by activity as such and studied under the name of will, which holds together the self as well as the act. For the act is not even as an act self-sufficient; its boundaries extend to embrace the totality of a self which is thus metaphysically, and not just phenomenally or logically, one."

Among the many topics of interest in these chapters relevant to psychology and moral philosophy, the following are of special interest: (1) the rejection of the distinction between freedom to will and freedom to act (115); (2) the assertion of identity in the project as 'entertained' and as 'enacted' (127) and of analogy (not univocity) between 'unique goods' (149, 193); (3) the distinction of 'modes' of freedom (*e.g.* in necessary responses to ideal objects and in deliberate choice); (4) the admirable analysis of the way in which bodily conditions affect the act of will without impairing its essential freedom and (ch. xvii) of the process by which the mnemonic background is gathered up into the project of volition; and (5) the argument (appendix to ch. xvi on the problem of "Character and Freedom") to show that the essential relation between character and freedom implies no opposition, since freedom in a non-intuitive self, *i.e.* a self capable of sinning against the light, presupposes character (195). More provocative of controversy are the discussions of what constitutes a single act of will and the difficult problem of the universality of the object of rational moral judgement. On these and other topics, Mr. Farrer is content to present the reader with the results of his own thinking, with but slight reference to other philosophers; the chief exceptions being occasional notice of his affinities to Bergson and a few pages of sympathetic and penetrating criticism of Kantian Ethics (150, 153). The present reviewer notes with encouragement and satisfaction the author's endorsement (153) of his own view that it is impossible, within the field of ethics, to reduce either the life of aspiration after ideal good or that of the discharge of moral obligation to terms of the other, and his pertinent remarks on the manifold ways in which these two types of rational conduct are found to intermingle in moral experience.

The reader will probably find that this lengthy justification of finite substance in the Second Part proves easier going than either Part I or Part III. Our chief criticism on Mr. Farrer's book is on the manner of presentation rather than on the substance. He knows clearly enough what he wants to say, and it is always worth

the saying; but he has not yet acquired full mastery of the technique of putting his thought across so as to be understood by the thinking public. It is not always easy to discriminate in a given passage whether he is stating an objection to his position or his own answer to an objection. And we are constantly held up by cryptic sentences, such as the following (on "concentration" in the self). "This antithesis" (which precisely?) "bears its dialectical character upon its face, and no doubt springs from an illegitimate application of the topic of the prior and the posterior" (203). Surely the promised purgation from the dregs of traditional Aristotelianism might here have been carried a step further! We fear therefore that the book, for all its merits as an original contribution to theology, may prove "caviare to the general". But the merits far more than outweigh any defects. It is no light achievement for a philosophic theologian, in championing a great and venerable tradition, to have succeeded in breaking ground on a new line of approach. We close with the expression of a hope that Mr. Farrer will not rest content with this rehabilitation of Natural Theology, but will, in the years to come, go forward on the tracks he has here marked out. He ends with the frank admission that his task has been incompletely performed. Indeed, the moral of the present work is *Tecum habita et noris quam curta supellex*. Has not Rational Theology the further function, left untouched in the present volume, of drawing probable conclusions in regard to the "particular contingent manifestations of Divine action which form the content of revelation"? So long as St. Thomas' claim to offer demonstrative proof of God's existence and of certain of His attributes was accepted, it was possible to draw a clear line of demarcation between Natural and Revealed Theology. In the one, Aquinas held, reason could demonstrate; in the other, it could only offer probable reasons in support of truths accepted by faith and in refutation of objections raised against them. But Mr. Farrer allows no demonstrative argument anywhere in theology, and can therefore hardly make use of this distinction. He offers probable arguments in Natural Theology; why should he not go on to argue on similar lines to the truth of Revelation? The need is urgent to-day, in face of the peril of irrationalism in theology, for a survey of the Christian faith in its *entirety*, directed to vindicate the reasonableness of its synthesis of faith and reason and its claim for acceptance by the human mind.

W. G. DE BURGH.

Opera hactenus inedita Rogeri Baconi, Fasc. XV : Summa Grammatica Magistri Rogeri Bacon necnon Sumule Dialectices Magistri Rogeri Bacon. Nunc primum edidit ROBERT STEELE. Oxonii : E Typographeo Clarendoniano. Londini : Apud Humphredum Milford. MCMXL. Pp. 396. 30s.

Opera hactenus inedita Rogeri Baconi, Fasc. XVI : Communia Mathematica Fratris Rogeri ; partes prima et secunda. Nunc primum edidit ROBERT STEELE. Oxonii : E Typographeo Clarendoniano. Londini : Apud Humphredum Milford. MCMXL. Pp. 174. 15s.

THE qualifications required in order to edit such works as these adequately are many and unusual. They include an expert knowledge of mediæval palæography, a deep understanding of scholastic philosophy, some technical knowledge of mathematics and its history, and last, but not least, the patience and judgment of a textual critic. Few will question Dr. Steele's claims as a palæographer or an historian of science. His deficiencies arise rather from an unwillingness to construe for himself the philosophical thought of his author, and, consequently, a certain indifference as to the intelligibility of the text. Lest this criticism should appear exaggerated, one may be permitted to cite a passage from *Sumule Dialectices* dealing with the Predicaments. 'Utrum illa sit que sit "quanta", sicut quomodo se habet ad aliquid, qualis, sic ubi sit, quando sit, quomodo sit res sita, quid habeat, quoniam corpus, quid agit, quid patitur' (p. 203). A few very slight alterations would have transformed such nonsense into something quite intelligible, if we allow for Bacon's unusual use of 'quoniam' for which many parallels could be cited. 'Utrum illa que sit "quanta", quomodo se habet ad aliquid, qualis sit, ubi sit, quando sit, quomodo sit res sita, quid habeat quoniam corpus, quid agit, quid patitur.' This criticism, serious as it is, must not obscure the very great service Dr. Steele has rendered. All three works here printed were worth publishing, especially *Communia Mathematica*, and, but for Dr. Steele's enthusiasm, they might never have appeared in print.

Summa Grammatica, *Sumule Dialectices* and *Communia Mathematica* form a convenient trilogy. Mediæval philosophy approached logic from the point of view of grammar, and, for that reason, *Summa Grammatica* is the best possible introduction both to logic and to the philosophy of mathematics. Within the limits of this review, it is only possible to touch upon the most central topics. The doctrines of Priscian's *De Construccione* centre round the analysis of discourse (*oratio*). For this *suppositio* and *appositio* are essential, and from them emerges quite naturally the orthodox subject-predicate analysis of propositions. The problems raised by the doctrine of *suppositio* were essentially logical. They reached their *crux* in the famous discussion as to what was the true supposition of the propositions 'Cujuslibet hominis asinus currit'

and 'Asinus cujuslibet hominis currit'. For wrong opinions on this subject, one was liable to be sent down from the University of Oxford round about 1277. The same problem comes up in English. Is the proposition 'Somebody's ass is running' primarily about somebody or about his ass? The best solution of the problem was given in our own time by Russell's *Theory of Descriptions* (pp. 1-11).

The Scholastics distinguished grammar from logic by the different perfections of which discourse was capable. Speech may conform to the rules of grammar and yet have no meaning, e.g. 'mens est corpus'. It may be grammatically imperfect and yet significant, e.g. 'dominum venit', 'urbem quam statuo vestra est'. Where, as in the first case, there is no artistic excuse, it is called imperfect *simpliciter*, but where it conforms to the rules of grammar and is significant, it is called perfect *simpliciter* (pp. 17-26).

A special difficulty arises in regard to the distinction between *intellectus primus* and *intellectus secundus*. In most mediæval discussions of meaning, there is a residue of naive realism. For Bacon, the primary meaning of a term is what Mill would have called its connotation, and the secondary meaning its referend. Throughout he is dominated by that traditional view, but occasionally he can produce an argument with a modern ring. 'Item, si conveniencia significatorum faceret perfeccionem, et congruitatem: ergo inconveniencia et repugnancia facient imperfeccionem et incongruitatem; ergo hic est incongruitas et imperfeccio "homo est asinus", quod falsum est' (p. 26).

The rest of *Summa Grammatica* is devoted to the analysis of idiomatic expressions to illustrate different points of grammar. This is a most fascinating exercise, and it suggests a way of approaching logical problems that would have a great deal in common with the analytic method practised by Moore and his disciples, but would be a good deal closer to grammar as a traditional discipline. If Wittgenstein is right in saying that the function of philosophy is to cure headaches by explaining away the anomalous, then the grammatical approach to logic is obviously the right one, and the mathematical one dangerously misleading.

Sumule Dialectices goes through the usual topics dealt with by mediæval logicians, though in an order somewhat different from that of Petrus Hispanus. After an introduction from the *Peryermeneias*, it goes on to the *Isagoge* of Porphyry and the *De Predicamentis*, and then returns again to the *Peryermeneias*. After that come the *Topics*, the *Prior Analytics* and *De Sophisticis Elenchis*. Where Bacon's interest is engaged, the discussions are interesting and he shows an ability of going right to the heart of a problem worthy of the title *Doctor Mirabilis* that was applied to him in the schools. Where his interest is not engaged, he is at least intelligible.

From the earlier part, we may perhaps single out the discussion of the predicament of quality for special notice (pp. 226-229). To decide the exact relationships between *Forma*, *Passio*, *Qualitas*

Passibilis, *Potentia Naturalis*, *Dispositio* and *Habitus* would require extensive discussion, but it is clear that Bacon had not passed beyond naive realism in his views on sense-qualities, or, so far as he had done so, had embraced a rather crude form of physical action theory. Dispositional properties (*Potentiae Naturales*) he understood a great deal better, but those who remember W. E. Johnson's lucid treatment of transeunt and immanent causation will agree that the Aristotelean position can be worked out a great deal further than Bacon, or any of the Scholastics, went.

Students of modern philosophy will find much to interest them in the discussion of negation (pp. 245-246). Unlike some Logical Positivists, Bacon does not think it nonsense to make negative assertions whose affirmatives are meaningless. He treats assertions like 'lapis non est justus' or 'wisdom is not blue' as significant. On the problem of *negatio infinitans*, he is less intelligible, and there again Russell's *Theory of Descriptions* clears up the ambiguities of ordinary speech. What he has to say on *privatio* is sound and well-expressed.

Much the most important section of *Sumule Dialectices* is that dealing with Modality, Supposition and Appellation (pp. 255-288). As the doctrine of Supposition is sometimes referred to in modern philosophy, a brief account of Bacon's views may be of interest to readers. The chief points are :—

(1) Supposition is a property that a term acquires through being part of a proposition.

(2) Most properly, it stands for the 'sustantiva rei designacio, sicut dicimus quod sustantiva nomina supponunt suam rem, id est, sustantive designant'.

(3) When a term stands for a simple logical object or a simple word, it has *simplex suppositio*, e.g. 'homo est dignissima creatura', 'homo est species'. One would like to interpret this to mean that a term has simple supposition when it is the name of a class or any simple formal entity, but this would be an excessive simplification.

(4) 'Personalis suppositio est quando terminus supponit pro individuus et inferioribus suis, ut "homo currit", "homo disputat".'

(5) Personal Supposition is *discrete* when the term in question stands for an individual either properly or demonstratively, like 'Socrates est homo' or 'Iste est homo'; it is *common* when a common term is used without a demonstrative.

(6) Terms having Common Personal Supposition may stand for one individual, as in the proposition 'homo currit'. This is called *Determinate Personal Supposition*. If they refer to more than one, they may do so either *confusedly and distributively*, as in the proposition 'Omnis homo currit'; or *confusedly only*, as in the proposition 'Cujuslibet hominis asinus currit'. In the former case, it is possible to descend from the common term to any of its instances, but not in the latter.

The discussion appended to this classification moves on a very high level, and is illuminating even in places where one must disagree with the conclusion. The concept of personal supposition raises difficulties that can hardly be disposed of without that distinction between names of the first and names of the second intention which Bacon specifically refuses to admit (pp. 271-272). The confusions involved in Determinate Personal Supposition seem quite insoluble. Apart from these, however, all difficulties might easily be dealt with along the lines of Russell's *Theory of Descriptions*, which admits only two kinds of supposition—*Discrete*, as in the proposition ϕa , and *Confused Indeterminate*, as in the propositional function ϕx . Whether there are any non-ostensive proper suppositions is a matter for modern logicians to settle. Bacon's analysis hardly takes him so far. From these brief remarks it may be concluded that *Sumule Dialectices* is a work of some originality and should not have been dismissed by Dr. Charles as 'une nomenclature assez brève de définitions et de divisions' (p. xiii).

When we come to *Communia Mathematica* we are instantly aware of a transition from interpretation to constructive philosophy. Bacon has a schema of the sciences that accords closely with that of Boethius, but his genius endows it with a new vitality. In that schema, Metaphysics has first place. Its function is to distinguish the various sciences and certify their first principles. Besides this, it may deal with those sources of error and confusion that are common to all sciences (pp. 1-5). After Metaphysics comes the science of discourse (*scientia rationalis*), which Bacon divides into Grammar and Logic, treating Rhetoric as a part of Logic. From this he passes on to the science of quantity—Mathematics—which he subdivides into Geometry, Arithmetic, Astronomy and Music. Certain notions and propositions were, in his opinion, logically necessary and common to all branches of the science of quantity, and to no other science. It was the function of *Communia Mathematica* to unfold these in their proper order, distinguishing them alike from strictly metaphysical matters and from matters proper to any of the four special sciences. Before starting this programme he mentions some of the commonest causes of error in mathematics, such as needless superfluities, the omission of necessary premises, the use of intolerably difficult proofs and expositions, and the confusion of common and proper truths. He enlarges also upon the utility of mathematics for invention and the necessity of the study for all who desire a thorough knowledge of logic and metaphysics. In doing this, he makes a liberal use of such authors as Alfarabius, Boethius, Cassiodorus, Isidorus and Anaricus (pp. 5-18).

There is little of startling originality in Bacon's method of defining the divisions of the sciences, except perhaps his recognition of a non-temporal sense of *simul*. "Simul" autem loco est secundum indivisionem ejusdem loci secundum numerum, ut substantia et accidens, corpus et anima, quae sunt in eodem loco, vel

secundum concomitanciam duorum locorum sine medio, ut duo corpora inter que nullum est medium habent duo loca simul.' This notion of 'togetherness' was needed by Bacon to define continuous permanent quantity in its various manifolds, which he takes to be the object of Geometry. Arithmetic he describes as the science of discrete permanent quantity. He has difficulty in recognising unity as a quantity. Astronomy and Music he regards as dependent upon Geometry and Arithmetic for their first principles, but he also recognises the difference between Speculative and Practical Sciences. By Astrology he understands what he should call pure Kinetics and by Astronomy proper the study of actual stellar phenomena. Music, on the other hand, is the study of harmonic proportions connected with sound. He does not admit any 'music of the spheres', although he allows that harmonic proportions may be found in their motions. The study of the changes produced in terrestrial bodies by celestial ones was part of the field of Astronomy, but Bacon had no illusions as to the difficulties of any such science. Before the discovery of gravitation it would have been unreasonable dogmatism to dismiss the possibility of such a science (pp. 18-58).

All science, according to Bacon, depends upon abstraction, and makes use of three kinds of proposition. '*Nam omnis scientia abstrahit aliquo modo, et tria genera propositionum habet et hiis utitur, licet diversimodo utantur scientie diverse*' (p. 58). The first form of abstraction is the logical sort, as when we consider 'man', not so far as it is in Socrates or Plato, but in itself. The second is that by which we arrive at the notion of a first cause. The third is the abstraction from corporeal matter and motion, whereby we form the notion of pure intelligences. The fourth is mathematical abstraction whereby we consider quantity without considering the matter and motion in which they are found. This, as he points out, does not entail the existence of quantity in separation from bodies, but only the possibility of considering their quantity independently of their other properties. All accidents may be so considered, but only quantity has enough difficult, but important, truths requiring investigation to merit elaborate scientific treatment of this kind. There is a fifth kind of abstraction found in the practical, as opposed to the speculative, sciences, which consider figure, motion and other accidents so far as they are the causes of transformation in the states of substances. Such sciences are causal. To this class, Bacon assigns Moral and Natural Science (pp. 58-63).

This doctrine of abstraction admits four cardinal sciences—Metaphysics, Mathematics, Natural Science and Moral Science. The question he now raises is whether Grammar and Logic can claim to be substantive sciences. So far as they are the names of natural activities, they are clearly not sciences. So far as they are descriptions of the psychological processes necessary for grammatical or logical speech, he does not think they are abstract in either the formal or the causal senses of the term, like Mathematics and Natural

Science. If numerical and extensive abstraction are fundamentally different from logical abstraction, then he is perhaps justified in treating logic as standing outside the formal sciences, but he gives no sufficient reasons for that view. Russell and Whitehead have tried to show that logical abstraction may be used to explain the others, since numerical abstraction is just a development of the propositional calculus, and extensive abstraction an application of numerical abstraction to a multi-dimensional manifold (pp. 63-65).

What then are the three classes of propositions used in the mathematical sciences? The first consists of propositions that are intuitively self-evident to anyone who knows the meaning of their terms. These he calls *Conceptions*. Some conceptions are definitions, e.g. 'Equale est quod alii compositum vel comparatum non excedit illud nec exceditur ab eodem' (p. 67). Others are synthetic *à priori* propositions, e.g. 'Si ab equalibus equalia demas que relinquuntur sunt equalia'. After this come propositions which are believed for some extrinsic reason after their terms are understood. To this class he assigns the Articles of Faith and the *Petitions* and *Suppositions* of Metaphysics and the special sciences. His remarks on the petitions and suppositions of Geometry are of particular interest. They include constructions like 'A puncto ad punctum rectam lineam ducere', and definitions like 'Punctum est cujus pars non est'. Anarius, in his *Commentary on Euclid*, treated the names 'petition' and 'supposition' as equivalent, because the former was what the master required his pupil to believe, and the latter what a student had, for the purposes of that science, to suppose. It would seem that Bacon took much the same view of geometrical definitions as J. S. Mill, believing that they involved postulates as to the existence of their objects. Many suppositions of the special sciences might prove demonstrable to persons more instructed in them, but some, the first principles of the science, must be indemonstrable by that science, and these he thought it was the function of Metaphysics to certify. He calls such propositions indemonstrable 'quia licet habent argumentum dyalecticum ad sui declarationem, non tamen argumentum demonstrativum' (p. 68). The third class of propositions he calls *Conclusions*, regarding which no comment seems necessary (pp. 65-70).

Mathematics, then, is founded upon Conceptions, which are intuitively self-evident truths, and Suppositions, which are postulates either of formal relations or of existence, whose truth becomes evident through dialectic. This seems an eminently reasonable way of dealing with the assumptions of non-formal, as well as formal, sciences. In the second part of *Communia Mathematica*, Bacon makes a serious attempt to apply it to Arithmetic and Geometry.

The first step in this attempt is the laying down of the Common Definitions of quantity, such as whole and part, greater and lesser inequality, proportion, continuous and discontinuous proportionality.

In this section, he deals with Euclid's definition of proportion, on the ground that the truths expounded geometrically in the Fifth Book are of general mathematical validity. How far his criticisms of Euclid are justified, the present writer is quite unable to decide; but their aim is the very reasonable one of removing obscurities in the expression and flaws in the logical structure. They are never of the cheap verbal sort that degenerates into logomachy. The same treatment is extended to the Sixth, Seventh and Eighth Books (pp. 70-110).

Bacon now passes from Common Definitions to Common Principles. Here his criticism of Euclid is plain to the layman and worth quoting here. 'Set Euclides non ponit sufficienter conceptiones, nec aliquis mathematicorum, oportet enim multociens uti multis aliis conceptionibus quam ipsi in principio preponant' (p. 111). He then shows that such principles can be indefinitely multiplied, giving instances of them, such as 'Quibus una quantitas est equalis, vel eque major vel eque minor, ipsa sunt equalia' (p. 112). Bacon regarded most Common Conclusions as useless and therefore negligible, but to help students he gives a very interesting list of the essential general propositions of mathematics, i.e. those which require to be demonstrated if a useful and cogent body of doctrine is to be constructed. He enumerates ten reasons that justify the effort to demonstrate. Propositions that are very widely known, of striking significance, or of great deductive usefulness should be demonstrated. So also should propositions that have been wrongly accepted as principles, or badly demonstrated, or left undemonstrated despite their importance. Propositions must also be demonstrated where there is obstinacy as to their acceptance, where the received demonstration is cruelly and needlessly difficult, where demonstration is the easiest method of exposition, and where the demonstration is very simple and brief (pp. 111-120).

Then follows Bacon's list of the propositions essential to the foundations of mathematics starting from the Fifth Book of Euclid and leading on to the theory of proportion, incommensurables and solid geometry. From that he passes to an enumeration of the chief properties of geometric, arithmetic and harmonic progressions, much of which is borrowed from Boethius and Jordanus. How far this work is logically cogent is a matter open to dispute, but it is undeniable that it would have provided mediæval students with a far shorter and clearer course of mathematical study than any that was previously available. What Bacon did not know about mediæval mathematics was probably not worth knowing, and here we have the quintessence of it. No man bore his erudition more lightly, or showed more discrimination in his use of it, because he was genuinely interested in the Advancement of Learning, certainly much more so than his namesake the Lord Chancellor (pp. 121-155).

From the above somewhat disjointed notes, it should be plain how great a service Dr. Steele has rendered to philosophy by editing these three hitherto unpublished works of England's greatest mediæval thinker. In some ways, *Communia Mathematica* may come to be regarded as the most important contribution to the philosophy of mathematics between the rise of Scholasticism and Descartes' writings on method. In many respects, Scholastic, like Modern, Philosophy may be dismissed as an aberration of the human mind, but there are certain respects in which works like *Communia Mathematica* are more valuable than modern philosophical treatises. In the first place, they are genuine attempts to simplify scientific doctrine and procedure, in a way in which Hume's *Treatise* and Kant's *Kritik der Reinen Vernunft* are not. In the second place, they attempt to reconcile scientific knowledge with revealed knowledge, and do not oppose the dogmas of revelation with the still more difficult dogmas of rationalism. Good theological manners are so rare in modern philosophy, except perhaps among Logical Positivists, that a return to the study of the Scholastics would certainly be more profitable for modern universities than a continuation of the present philosophical curricula. In any such revival, the works of Roger Bacon are worthy of a prominent place.

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Dynamics in Psychology. By WOLFGANG KÖHLER. London: Faber & Faber, 1942. Pp. 120. 8s. 6d.

It is, perhaps, somewhat unusual to comment on the æsthetic qualities of a work of this kind; either they may be judged irrelevant or, more often, there are no æsthetic qualities on which to comment. Such qualities, however, are so prominent in Professor Köhler's little book that we cannot resist remarking on the extreme pleasure which attends the reading of it. It has an elegance of form which cannot but arouse our admiration, and it is worth reading as a perfect example of scientific exposition.

There are three chapters, of which the first is introductory. It is an essay on the curious position which psychology occupies, when compared with other sciences. Discovery, Köhler maintains, is not to be expected in the field of psychological research, in the same sense as it is to be expected elsewhere. X-rays, argon, vitamins and the planet Neptune are objects which were unknown before they were 'discovered'. New techniques of investigation, the chance juxtaposition of objects, improvements in the manufacture of magnifying instruments and deductions from accumulated knowledge have led, and will doubtless lead, to such 'discoveries'.

In psychology, on the other hand, no discoveries of this kind have been made, or are likely to be made, because the material is

there for us in everyday experience. Eccentric behaviour or hypnotic phenomena are, after all, only familiar material in unfamiliar places.

Of course there are some philosophers who would hold that there *could* only be a reshuffling of familiar mental constituents, and that the mode of presentation of the planet Neptune, when first observed, is just the same as the mode of presentation of a perfectly familiar planet; we are only having a 'planet-appearance' in an unusual place. If, however, we assume a more or less common-sense dualism, then Köhler is undoubtedly right.

What is 'discovered' is of the nature of functional dependences, and such discoveries are retarded by the very familiarity of the data, which precludes the discovery of new entities. Who would not assume that the rate of perceived movement is dependent on the change of stimulation in the retina? Everyday experience makes it obvious, and then it is discovered that it is functionally dependent on the size of the field in which the movement is perceived, because two sets of objects, which are moving 'objectively' at the same rate, appear to be moving at different rates if they are presented in fields of different sizes. Everyday experience does not provide us with such conditions, and no one would think of making the experiment.

Again, it is a commonplace that memories fade as the years pass by, and we construct 'curves of forgetting'. Then we find that remembering is functionally dependent on what happens immediately after learning, what happens *before* learning (proactive inhibition), and on the similarity or dissimilarity among themselves of the items learnt.

These are two of the examples given by Köhler to illustrate his point, and they come from the field of experimental psychology to which the *Gestalt* school has contributed so much. Indeed one of their great contributions has been to shake our faith in the obvious. They have been teased for working like moles in the dark, they pay more attention to visual illusions and reversible figures than we do in everyday life, and Professor Köhler invites us to study pictures placed behind us by bending forward and looking at them between our legs, in order to discover the relationship between retinal and spatial inversion. The whole point is to discover unexpected functional dependences, and this can only be done by operating in unusual conditions and with unusual material.

Köhler might surely have thrown a glance at psycho-analysis, if he had wanted further instances to support his contention. We need not say that psycho-analysts or anyone else have 'discovered' the 'unconscious'; they have discovered hitherto the unknown functional dependence of our emotional life in adult years on our emotional life in early infancy.

The second chapter is entitled 'The Field of a Percept', and the name indicates the main thesis of the book.

The researches of the '*Gestalt*' psychologists have earned them their title by bringing overwhelming evidence to show that the field of perception is not a mere collection of independent items, but that what happens in one place may have an effect on what happens in another. "According to von Frey", for instance, "a touch impression changes its location if at some distance a second such stimulus is simultaneously given" (p. 47). The repetitive patterns of the wall-paper organise themselves as we stare at them, and Rubin has shown that the 'behaviour' of a visual stimulus is functionally dependent on its having a 'figure' or a 'background' rôle to play.

The figure-background relationship is the example of interdependence which Köhler chooses for the exposition of his theory. On page 55 he gives an illustration of a well-known reversible figure. If you draw a cross in a circle, the arms of which are radii, you actually construct *two* crosses. (The example given by Köhler is a three-legged 'cross', which serves the same purpose.) When one cross is manifest, the other is no longer a cross, but its arms fuse, as it were, into a background of the one you are perceiving, but if you stare long enough a reversal takes place and what was cross hitherto becomes background, and the background differentiates itself into the arms of a cross.

This illustrates three points: (1) The area which functions as background *looks* different from the area which is functioning as figure, though objectively they may be similar so far as stimulation is concerned, (2) the figure fades after concentration, (3) the background becomes figure as the former figure fades into background. The distinction between (2) and (3) is important, though of course they are simultaneous.

Point (1), which is an instance of the general point that what happens in one place influences what happens in another, is the main issue, and Köhler suggests that we must assume that stimuli impinge on a receptive continuum which has this peculiar property. This, of course, is not new, but in this book Köhler is displaying his theory as an exercise in scientific method, and therefore he takes us step by step, and makes no 'gestaltist' assumptions.

The mere assertion of functional dependence of the appearance of a background on the presence of a figure is obviously not enough, we want an inclusive explanatory framework, an existential assertion—there is a receptive continuum with certain properties—by means of which we 'explain' the functional dependence. This hypothesis is not the same as the assertion of functional dependence, as Köhler rightly insists, at the beginning of the third chapter.

He then proceeds, with due scientific method, to test his hypothesis. If it is true, then, he argues, if you fixate a point, and if nearby is a figure—say, a rectangle—the receptive area will be modified in the neighbourhood of the part affected by the rectangle, and there will be a different condition in the 'rectangle area' from that

appertaining in the area round about. If now you project a pair of figures, one of which falls on the 'figure-area' and the other somewhere on the 'background area', then the two figures will look different, though objectively they may be similar, and this will also be the case if you project a new figure part of which falls in the 'figure area' and part in the 'background area'. In the latter case the new figure will have its shape modified. Furthermore, this should happen if you *remove* the original rectangle *before* presenting the test figures. The experiments are described, and the result is in accordance with expectations. The hypothesis is verified.

The next step is: how are we to conceive of the receptive continuum? We have departed from the order in which Köhler expounds his theory, and we are struck with a piece of advice which he gives to those who would repeat his experiments. "During the inspection period and the test the subject should carefully avoid any major movements of the eyes and the head. As soon, for instance, as he bends the head to one side, a test object may no longer lie within the region which the test is meant to explore" (p. 80).

The phenomena which Köhler describes, and other phenomena described in *Gestalt* literature, are independent of intention, though, as Köhler admits, they may be influenced by it. It is therefore not unplausible to contend that the receptive continuum has something to do with the physical receptive centres of the brain.

Köhler himself does not step so gingerly. According to him: "It is not almost generally acknowledged that psychological facts have 'correlates' in the biological realm," by which he means the physiological realm. Well, is it 'almost generally acknowledged'? Some of the 'old Guard' (or is it the 'new') still feel that the psychological phenomena of knowledge and volition are recalcitrant to physiological correlation. However, here there seems to be *some* physiological basis involved, since the position of the eyes is so important.

Anyway, having located the receptive continuum, with its peculiar properties, in the brain, Köhler advances to his main thesis. Is there, he asks, any phenomenon known to science which has these properties, and also has some connexion with the nervous system? "I cannot find more than one such process", he says, and he proceeds to put forward the hypothesis that the figure-area is electrically charged in a way which causes changes in ionic concentration in the neighbourhood. Put simply it means that there is more intense disturbance in the place corresponding to the figure than there is in the place corresponding to the background, and that it is in virtue of this that we actually do perceive a figure on a background. "Suppose", he says on page 61, "that on the retina a white circle or any other figure is projected, and that its environment is a uniform grey. In this case neurohumoral action in the visual centre of the brain will assume the following form. In the circumscribed area which corresponds to the white retinal figure, impulses will arrive at

a high frequency and in many individual fibres; in this area chemical activity will therefore be maintained at a high level. In the environment, on the other hand, where fewer impulses arrive in a smaller number of active fibres, the level of chemical activity will be lower."

This hypothesis is not new; it has been already suggested by Köhler himself some years ago. It now appears in a slightly more elaborate form. It jumps two serious gaps in our knowledge: the detailed physiological constitution of the neural receptive areas, and the electro-chemical nature of neural processes. Our ignorance of the former makes us hesitate because Köhler's own doctrine of isomorphism demands that the neurological process should have boundaries which correspond to the boundaries of the field of perception. Presumably these boundaries need not be spatially analogous, so that there is a total area of stimulatedness, having the same *shape* as the visual field, within which there are smaller areas of sub-fields and figures corresponding in shape to perceived sub-fields and figures. This seems ruled out by the experiments of Gelb and Goldstein on hemianopsics, who saw a field of vision of the normal shape, though the receptive area had been severely damaged. But if this is so, what relation in the world of neural happenings can correspond to the shape and sharp outlines of figures perceived on backgrounds? And what is the nature of the boundary between the visual receptive area and the rest of the brain?

Our ignorance of the electro-chemical processes in the brain makes us pause for another reason. One gathers that in electrical fields the pervading conditions are so delicate that the slightest change in one place causes changes in another. If the appearance is to be explained in electro-chemical terms, surely objects ought to be distorted far more than they are. The neighbourhood of a table must be different in ionic constitution from the neighbourhood of a chair, but if you put a flower-pot off the table on to the chair it does not look *all that* different. Would one, indeed, not expect a moving figure to alter its shape as it passed through the halo of differently shaped objects? Perhaps these difficulties are superficial; perhaps, when one knows more about the electro-chemistry of the nervous system, they will be removed.

There is another minor difficulty. Supposing, as in one of Köhler's examples, the figure-area is not bounded by continuous lines, but by broken lines. The effect on the receptive continuum is the same as if it had been bounded by continuous lines; ought this to be so? "For fairly obvious reasons," says Köhler, "the current inside the figure . . . cannot leave this figure in spite of its broken edges." Well, of course, it is obvious enough that according to the hypothesis if the current did not remain concentrated in the area we should not perceive a figure at all, but here we are on the brink of a circular argument. The fact is that it is by no means obvious that from a *physical* point of view a broken line can have the same perceptual effect as a continuous one.

There were, it will be remembered, two other points illustrated by the reversible cross. The cross stared at fades into background, and the hitherto background emerges as cross. Köhler believes that there may be 'blocking' processes of an electro-chemical character which leads to a reduction of the figure intensity, and these will be responsible for the shrinkage of the 'test' figures which were projected onto the 'figure-area' in the experiments mentioned above. This may turn out to be true, but why should the *reversal* take place? No satisfactory explanation is given for that.

The need for a 'field theory' is obvious, and it must be independent of, though influencible by, volition, but *where* it is, and of what nature, still remains extremely uncertain.

In the last chapter the 'field' approach is applied to a problem of recall. Some form of trace theory is assumed, and we waive all the obvious objections. The problem is this: when recall is based upon similarity between the present presentation and the past which is recalled, how does the present evoke the traces of the past? Not, we know, by re-activating the same nerves, because a tune heard in one key can activate the trace left by the same tune heard in another. But how?

If you have a vertical row of white dots and next door a parallel row of black ones, then another row of white, and so on until you get a square of dots, the square will look as though it was made up of alternating *bands* of black dots and white dots; that is to say the similar dots hold together, there is a closer relationship between the black dots than there is between any black dot and any white one. These similars cling together, according to Köhler, because there is a basis of similarity between their underlying electro-chemical processes. It might incidentally be pointed out that you have the same effect of similars 'belonging' together in cases where the similarity is not by any means so physically obvious. In non-verbal intelligence tests you very often find a classification test, consisting of a row of figures or pictures in which there is one, or perhaps two, that do not belong, and the problem is to detect the outsiders. Once the principle of the test has been grasped, the similars *look* as though they belonged, while the outsiders *look* as though they did not belong. Of course in this example you start with preliminary instructions, while in the Köhler example the 'belongingness' is forced on you, but all the same it is worth noticing that similarity of a meaningful nature may produce the same perceptual effect, and an effect moreover which seems to render similarity of electro-chemical basis highly unpalatable.

However that might be, Köhler suggests that the same factors that are responsible for the 'belonging-together-ness' of similars in the visual field, is also operative in the evocation of similar traces. Similars call to similars, whether co-presented, or presented with an interval between them.

But do similars always call to similars? No, we may have two

circles surrounded by figures of about the same size and more or less circular, and the pair of circles will be submerged into a general collection of more or less circular figures. If they are surrounded by figures quite unlike them, then the pair stands out as a pair.

If, therefore, like calls to like in remembering, then if two similar items, one of which *ought* to recall the other, are presented in a temporal series of other items rather like them, there should be some impediment to the recalling—the pair would lose their identity in the whole series. If, on the other hand, such a pair is separated by items of a totally different nature, then recall would not be impeded. Köhler and his colleagues have devised ingenious experiments to test this, and certainly the results may be interpreted as validating the prediction to which the hypothesis gives rise.

But there is one comment on these experiments which we must make. The memory of nonsense syllables and the visual association of black dots is one thing, and the meaninglessness of the material is important, but in Köhler's experiments, and, indeed, in the vast majority of cases of spontaneous recall in everyday life, the basis of recall is similarity of meaning, rather than similarity of bare appearance. Surely it is difficult to imagine an electro-chemical correlate of a *type* of mathematical problem, or the *gist* of a story. One can always say that we don't know enough about the nervous system, but can one get away with that alibi for ever, in view of the *a priori* oddity of trying to correlate non-spatial items with a spatial continuum, or a continuum in which logical relations have to be correlated with differences of potential?

Professor Köhler has not charmed us into agreement, but we strongly recommend his book, because of the questions it raises, the instructive experiments he describes, and above all because of its '*Gestalt*'.

W. J. H. SPOTT.

IV.—NEW BOOKS.

Between Physics and Philosophy. By PHILIPP FRANK. Cambridge, Mass.: Harvard University Press; London: H. Milford, 1941. Pp. 238. 15s. 6d.

In this volume Mr. Frank brings together in an English version ten papers contributed to various continental periodicals, most of them between 1934 and 1938. They were all written, from the standpoint of a physicist, in the interest of the view which has developed into logical empiricism, and make a contribution to the history of its development. Like Mach, Mr. Frank worked in the Universities of both Vienna and Prague, the two cities most closely associated with the new movement. In the Introduction he explains the circumstances in which each paper was written, and gives some personal details regarding the group which ultimately emerged as the "Vienna Circle". Most of the papers are short. They are clearly written, free from abstruse technicalities, and deal with questions of interest even to the layman concerning the relations between physics and philosophy. While holding very firmly to his own point of view, Mr. Frank writes with urbanity, moderation, and good temper. The essays are frankly anti-metaphysical (in regard to science) but metaphysics is never called hard names, nor is it denied "any influence upon human life". All Mr. Frank does is to try to show, on the one hand, that neither the facts nor the theories of science have any light to throw on any of the questions in which metaphysicians are interested, and on the other hand, that none of the questions in which metaphysicians are interested are of any help, at any rate so far as actual content is concerned, to the scientist.

The papers take the form of arguments; but in the light of the final view reached these should be looked on as arguments in favour of a set of proposals for developing science in a particular way. What Mr. Frank is anxious to do is to get scientists to restrict their statements to two kinds and two only, *viz.* (a) statements about observable facts, that can be tested experimentally, and (b) proposals to represent the facts in a certain way, either verbally or diagrammatically. One of his main arguments in support of this proposal is that it is useless for scientific purposes to suppose that there are real objects, which exist independently of and beyond the range of our direct observation, and whose nature scientists are trying to discover. This supposition is, he argues, wrongly described when it is called a hypothesis, since no consequences can be deduced from it which can be tested by observation. It is to be called rather a metaphysical assumption.

To those physicists who reply that they cannot understand why an investigator should stretch his faculties unless it is in the hope of penetrating to the nature of reality, Mr. Frank answers: (i) this hope may be a help, psychologically, to an individual scientist, as the smell of decaying apples helped Friedrich Schiller to write poetry, but it contributes as little to the investigation in the way of actual content as the smell did to the content of Schiller's poetry (135); (ii) the history of science shows that the metaphysical assumption has never contributed directly to any scientific discovery, whereas the restriction of scientific activities to what can be observed—the rejection of a metaphysical point of view—has in modern

times directly led to new developments, notably in relativity and in quantum theory; (iii) that the metaphysical assumption leads inevitably to the raising of a great many apparent problems for which no evidence is either available or conceivable, and which are therefore pseudo-problems; (iv) that the rejection of metaphysics makes possible a programme leading to the unification of science, through the development of a single language which can be used without modification by the workers within all the special branches of science.

To (i) I think it must be replied that to show that from a particular assumption no detailed consequences as regards observation can be drawn, is not to prove that this assumption is useless for the investigator, just as it does not follow that a calculating machine is useless because its wheels do not enter as constituents into the result calculated. A similar reply can be made to (ii): the history of science does seem to show that both the actual hypotheses developed and the investigations entered into have at times been conditioned by the ideas entertained by investigators about what a real world and real processes would have to be like. Mr. Frank would naturally not regard theological speculations as scientific hypotheses in the strict sense; yet the thought that the world was made by God and therefore should show certain kinds of excellence did much to determine what types of hypothesis investigators framed in the seventeenth century, even though it did not contribute any detailed content to the hypotheses themselves. I am thinking, *e.g.*, of Descartes's formulation of the law of the conservation of "motion"; of Leibniz's insistence on the continuity of change, and his consequent formulation of the principle of conservation of energy; and of many other principles (running far beyond experience) which contributed to the development of physics. I suppose theological considerations have ceased to play a rôle of this sort, and it may be that investigators will in course of time come to shed all assumptions except those desiderated by Mr. Frank and the logical empiricists; but it seems to me that in our time a good many actual investigations have been helped by the endeavour to fit the observed facts into a kind of unified picture of a world of processes which the investigator thought well enough of to be able (to follow a suggestion of Eddington's) to applaud as "real"; and that the usefulness of this idea is by no means exhausted. I should accept whole-heartedly Mr. Frank's protest against the conception of a "real" world wholly beyond the range of any possible human experience; but I am not happy about the proposal to consider certain prescribed ways of experiencing as the only ways worth following, because it is only those ways which yield direct results capable of being incorporated into science. Thus the suggestion that any enquiries not restricted to empirical facts and to language about empirical facts are useless for science, seems to be unduly narrowing. At the same time, nothing but good can come of the proposal that a particular set of investigators should restrict themselves in this way, and see how far it will take them.

Several of the papers were directed against people who used the new developments in science, especially relativity and quantum theories, as arguments in favour of some form of idealism, or of an indeterminism in physics leading either to some kind of vitalism or to a defence of free will in human conduct. His discussion of the view that the Newtonian physics was mechanistic while modern physics, being pre-eminently mathematical, is more akin to an idealist account of the universe, is admirable and cogent (104f). His account of the formulation of the complementarity principle (157f), and his discussion of its relation to the question of human

freedom, leave little to be desired, although it might help to an appreciation of the former point, if it were made clear that both the conception of a "moving object" as having a position at an instant, and the conception of a "moving object" as having a velocity at an instant, are complex conceptions (like that of a "moving object" itself) reached as results of manipulation of observable data, and it is therefore not surprising if it should turn out that in certain circumstances not both of these manipulations are possible in regard to the same "object". But what (I should urge) emerges therefrom is not merely a rule prohibiting certain kinds of statement (159), but a challenge to the investigator to form a new and more adequate set of conceptions relating to "objects" in these circumstances.

The earliest essay (1907 or 1908) on the principle of causality, is of interest only for its thesis, developed under the influence of Poincaré, that the principle is a human convention; the treatment is somewhat lacking in precision of statement. There are three essays dealing with Mach, one written in 1917 on the occasion of Mach's death, one in 1938 on the centenary of his birth, and the third, a brief but very clear account of dialectical materialism (conveniently abbreviated to *diamat*) in which he suggests that the dialectical materialists could fruitfully revise their attitude to Mach's views. These papers show Mr. Frank's view of Mach as "one of the spiritual ancestors of the Unity of Science movement and particularly as the real master of the Vienna Circle" (211).

The volume is to be warmly welcomed, and it is to be hoped that the example it offers will be followed by the collection and translation of various of the papers, written by other members of the Circle, that are scattered in periodicals not always accessible at the present time.

L. J. RUSSELL.

Corpus Platonicum Medii Aevi. Edidit RAYMUNDUS KLIBANSKY. *Plato Arabus.* Edidit RICARDUS WALZER. Vol. ii. *Alfarabius de Platonis Philosophia.* Ediderunt FRANCISCUS ROSENTHAL et RICARDUS WALZER. In Aedibus Instituti Warburgiani. Londini, MCMXLIII. Pp. xxii, 30 (+ 23 pages of Arabic text). 15s.

I AM bound to open any remarks I have to make on this volume with a sincere apology. Properly it should have been sent for notice to an Arabic scholar, but I suppose under existing war conditions it may have been difficult to find a reviewer familiar at once with Arabic and with Plato. For my own part I can attempt no more than to give, as one who is interested, an account of the contents of the work based on the Latin rendering and the judicious editorial Preface, though I may perhaps be allowed to make the observation that there appears to be just one sentence (p. 9, ll. 29-30) where the author's meaning has been obscured by the translator. Alfarabi is made to say that in the *Erastæ* Plato has shown *philosophiam non esse utilem neque necessariam sed generi humano et utilem et necessariam*. This reads like a formal self-contradiction, but what is evidently meant is that "philosophy is not something which, though useful, is not indispensable; it is useful and indispensable to mankind". The words should run, *non esse utilem quidem non autem necessariam verum generi humano et utilem*, etc.

The editors explain that the present little compendium of Platonism is in fact the second part of a treatise of Alfarabi *de beatitudine essequenda* printed at Hyderabad in 1926. For the constitution of the text they have availed themselves of a MS. in Constantinople and of an already published

Hebrew version by the mediæval Jewish translator Sh'emtoḇ b. Yosef b. Falaguera. The third section of Alfarabi's dissertation, of which a similar edition is promised in the future, deals in the same fashion with the Aristotelian philosophy.

As will appear immediately, throughout this short dissertation, Platonism is treated simply as a dogmatic exposition of the individual's way to a happy life; there is no reference to the "Ideal Theory", and there is a complete silence, even in treating the argument of the *Phædo*, about immortality and the fate of the soul after death. The editors tell us in their Preface that the same silence is maintained in metaphysics in the companion sketch of Aristotelianism. It is obvious, of course, that Alfarabi is depending for his account of Plato on some no longer extant Greek compendium, and it appears that, as was usual with the Arabs, the compendium itself has come to him through a Syriac version. (The editors remark that among the mistaken etymologies supplied of the personal names in the dialogues there are several which are only explicable as errors made by a Syriac translator or transcriber.) It thus becomes a question of interest to discover, if we can, the *provenance* of this lost Greek account of Plato. It is evidently a work of "Middle Platonism," but not identical with anything known to us from other sources. That it is not neo-Platonic is shown by the way in which the *Parmenides* is treated simply as a piece of dialectic and the *Timæus* as a dogmatic exposition of "natural" philosophy. That it does not come from any representative of the so-called sceptical Academy of Arcesilaus or Philo is proved by the underlying assumption that Platonism is definitely a "dogmatic" philosophy. Hence we can safely say that it must belong to the version of Platonism made current by Antiochus of Asculon, and there certainty stops for us, though the editors mention as a mere possibility that the work may be that general exposition of Plato which some Arabian writers seem to have known as a composition of Theon of Smyrna. What is clear is that whoever wrote the work arranged the dialogues in a particular order of his own, unlike any known to us from elsewhere, with a view to representing them as the methodical development of a single central argument. By Alfarabi this order—which begins with *Alcibiades I*, *Theætetus*, *Philebus*, *Protagoras*, and ends with *Chitophon*, *Menexenus*, *Epistles*—is expressly said to be also the chronological order of composition. I should *hope*, however, that the unknown Middle Platonist may be innocent of this. The scheme is made to provide a place for all the contents of the tetrologies of Thrasyllus except the *Minos*, which is never mentioned. The Platonic philosophy as thus expounded then works out as follows. Philosophy is a certain 'universal science,' of the way to beatitude. Plato first proves the possibility of such a science (*Alcibiades I*, *Theætetus*, *Philebus*, *Protagoras*, *Meno*), next he shows by induction that it is none of the recognised 'departmental' sciences, neither the mythical theology (*Euthyphro*), nor linguistics (*Cratylus*), nor "poetry" (*Ion*), nor rhetoric (*Gorgias*), nor "sophistic" (*Sophistes*, *Euthydemus*), nor dialectic (*Parmenides*), though dialectic is a necessary propædæutic for it. The knowledge we want is not merely utilitarian, and so the science which furnishes it is neither one of the τέχναι (*Alcibiades II*, *Hipparchus*, *Greater Hippias*), nor an art of pleasure-seeking (*Symposium*). Plato next begins to expound its real character (*Theages*), and to show that it is the science of the philosophic king (*Politicus*). The non-philosophers are lacking in true temperance (*Charmides*), true courage (*Laches*), and true friendship (*Lysis*). In the *Phædrus* it is shown that this science can only be attained under the

impulse of a true Eros, the right Eros is distinguished from the wrong, the methods of philosophy are found to be analysis and synthesis, and it is proved that both dialectic and rhetoric are necessary for the imparting of it. Next it is shown that the philosopher will have to set himself in opposition to current belief and practice (*Crito*), and that a man should prefer death to a life like, or worse than, that of a beast (*Apology, Phaedo*). Then Plato describes the life of a society with philosophers at its head in which a man can live as a philosopher should (*Republic*). The *Timaeus* supplies such a society with a compendium of divinity and—so far as such a thing is possible—of natural science, and the *Laws* with a rule of civil life; the *Critias* is an ideal picture of the attainments of the philosophic ruler who combines speculative and practical science. The *Epinomis* tells us what manner of men philosophic rulers themselves should be, the *Clitophon* shows that in educating their subjects they will employ the dialectic of Socrates for the select few, but also the rhetoric of Thrasymachus for the unphilosophical many, and the *Menexenus* how a city should honour its kings and philosophers. Finally, the *Epistles* treat of the means by which the philosopher may be protected from the dangers to which he is exposed in existing societies and may gradually reform their institutions.

A. E. TAYLOR.

The Thomist: A Speculative Quarterly Review. Edited by the DOMINICAN FATHERS OF THE PROVINCE OF ST. JOSEPH, Vol. V (Jan. 1943). The Maritain volume. Pp. 374. Sheed and Ward, New York. Price, \$3.50.

"SCIENTISTS," as M. Gilson told us the other day, "prefer to say anything rather than to ascribe existence to God on the ground that a purpose exists in the universe." Really, the charge of deity-shyness can be levelled with more justice against philosophers. Moreover, when they do bring God into the picture, as do, e.g., Alexander and Whitehead, their conception of Him is apt to prove a hornet's nest of paradoxes, wholly out of touch with the religious consciousness of this or of any preceding age. Think of the numerous burlesques of deity that burgeon year after year and almost day after day in the congenial climate of America! The solitary exception is the neo-Thomist school which, treading in the foot-prints of Aquinas, claims to find in his writings a *philosophia perennis*, in harmony with the tradition of Catholic Christianity, yet instinct with vitality and capable of being finely touched and to the finest issues by the newest discoveries of modern knowledge. The school, whose best-known living exponents are M. Etienne Gilson, writing from the angle of the history of philosophy, and M. Jacques Maritain, from that of systematic epistemology and metaphysics, merits closer attention than most thinkers, mistrustful of a frankly theocentric philosophy, are willing to accord to it. This is especially so when its voice speaks from across the Atlantic, where both these scholars have happily found safe harbourage from the storms that are shaking European civilisation to its foundations.

This volume, a *Festschrift* presented to M. Maritain on his sixtieth birthday, comprises some twenty papers written by American admirers of his writings, who, if they are not all avowedly Thomists, are in sympathy with the dominant principles of that philosophy. The contributions are of varying interest and value. They open with a "biographical impression" that is far too sketchy to throw any light on Maritain's personality; if this sort of thing is done at all, it should be in fuller detail and with some

degree of literary skill; and they close with a useful bibliography, compiled by Miss Ruth Byrns of Wisconsin. The intervening studies may be grouped as cultural, socio-political, and metaphysical. Maritain has written much and well on art and culture; we need therefore feel no surprise at the inclusion of the score of a Motet (*de Ordinatione Angelorum*) by M. Lourié, the words of which have been selected from St. Thomas by Madame Maritain, as well as papers on Dante and the contemporary Catholic poet, Paul Claudel, and a highly interesting study of art in France and England 1540-1640 by the well-known writer on economic history, Prof. Nef of Chicago. In this same group should be classed President Brennan's very able and lucid essay on *The Thomistic Concept of Culture*, and a short but illuminating study (by Louis Finkelstein) of the *Role of Dogma in Judaism*, in which the author maintains that "Judaism for many centuries avoided formulating the speculative truths implied in its commandments, preferring to let the ideas remain expressed only in terms of prescribed action". We refer to this point in an essay that has otherwise but a slight bearing on Maritain's work, for the reason that the writer, like Maritain, has insisted on the significance of non-verbal modes of symbolism (whether it be aesthetic or practical) in the expression of truth. But is he right in setting against their manifest advantages their "lack of precision and clarity" (p. 104)? What could be more clear and precise than the line drawn by the painter or the musical tones in the several parts of an orchestral composition? The second of our three groups, that dealing with political and social theory, is represented by an essay devoted to Maritain's political views, which are fairly well known to English readers, by an admirable exposition, on strictly Thomistic principles, of *The Theological Ingredients of Peace*, by Father Osbourn, by a discussion, closely related to present-day international problems, of Social Justice and International Life (Prof. McMahon) and a discriminating study of Burke as a theorist of oligarchy by President Hutchings of Chicago. To these contributions we may join two well-documented and able essays on Aristotelian ethics, President Phelan's on *Justice and Friendship*, and Prof. Pegis' on *Matter, Beatitude and Liberty*. Turning to the more properly philosophical contributions, we would direct attention to Prof. Simon's all-too-brief review of Maritain's philosophy of the Sciences, which forms the chief title to distinction of that thinker's greatest and most difficult work, *Les degrés du Savoir*. It is most unfortunate, in view of its difficulty, that the English translation which appeared a few years ago should be not only more difficult for the English reader to understand than the original, but should have been marred by a host of easily avoidable blemishes. *Les degrés du Savoir* is emphatically a book that calls for an adequate English rendering; for not only is it a great work, but it brings Thomist epistemology into relation with the most recent development of scientific and philosophical research, in ways from which philosophers in this country have still only too much to learn. Prof. O'Meara's article entitled *John Dewey and Modern Thomism* is of special value, in that it sets Thomism in comparison and contrast with its leading rival in contemporary American thought. "Contemporary Thomism, as taught by Jacques Maritain, certainly does not claim (as Dewey objects) to be actually in possession of the one true philosophy in all its perfection and integrity". But the modern Thomist "does claim that his philosophy is a doctrinal organism founded securely as a whole on true principles, which has the task of progressively realizing the virtual philosophy now divided in a plurality of opposed systems" (pp. 317-318). These sentences reflect the temper of candour

and tolerance displayed continually throughout this interesting volume. We miss, however, any reference either to Logical Positivism or to the philosophy of A. N. Whitehead, both of which have their adherents in America, and neither of which can be ignored as serious alternatives to the revival of Thomism. Finally, we note that, as would be expected, the emphasis on existentiality that is the central characteristic of Aquinas' metaphysic is well brought out in two essays, by Prof. Chapman and Prof. Mortimer Adler of Chicago; the latter of which, on the *Demonstration of God's Existence*, faces boldly up to the difficulties in the *Quinque viae*, and is perhaps the ablest and most searching contribution in the book to an existential theory of metaphysics.

W. G. DE BURGH.

Friedrich Nietzsche: Philosopher of Culture. By FREDERICK COPLESTON, S.J. London: Burns Oates & Washbourne Ltd., 1942. Pp. xii + 217. 8s. 6d.

THIS book is an exposition and of unusual merit. It is about the right length, covers the theme adequately, and—what is rare—succeeds in conveying the nature of the original. The author neither reads in what is not there nor glosses over the significance of what is there. If expositions of Nietzsche are sometimes written in an arrogant spirit, with contempt for those of lesser clay who oppose him or cannot understand him, no such fault will be found in this book, which can be recommended as an excellent introduction. Prof. Copleston does not throw any new light on Nietzsche, his life, or his views, but he does set all of these in a balanced perspective; and this brings us to the main feature of the book.

Prof. Copleston is a Jesuit. It is unusual to find such an author studying Nietzsche at all, let alone sympathetically and with justice. Naturally, the author does not agree with many of Nietzsche's views, but he expressly states his admiration for him as a man and for his sincerity and idealism. It goes without saying that Prof. Copleston cannot accept the doctrine of the Antichrist and that he assumes the standpoint of Christianity; but it is a merit of the book that he rarely lets this assumption infiltrate into the body of the discussion—he may mention it here and there, but he wisely restricts to a relevant chapter his standpoint which, on Nietzsche's grounds, would be question-begging if infused indiscriminately throughout the book. Prof. Copleston treats Nietzsche from the philosopher's own angle and allows him to speak for himself.

The purpose behind the book is apparently to set Nietzsche right in the eyes of a world inclined to blame him for the present war—just as Hegel was the philosopher responsible for the last one! Though the author openly quotes the passages in which Nietzsche extols war, he has no difficulty in placing the philosopher's views in proper perspective: Nietzsche gloried in strife; but he saw that war killed culture—and in the Franco-Prussian conflict killed it in the victors. But Prof. Copleston has nevertheless been led to the interesting conclusion that Nietzsche's views are of a kind that would lead to the Nazi creed *in practice*—they could be interpreted without difficulty so as to fit a Fascist outlook if read with anything short of full insight into his meaning.

The author makes a couple of strange remarks. He holds that "the Christian philosophy includes all that is of value in the thought of both Schopenhauer and Nietzsche" (p. 160). It is difficult to understand how this could be maintained. He also writes "that this book is in no way

designed as an introduction for Christians to the works of Nietzsche. It is very far from the author's thought to suggest, that convinced Christians would do well to read such books as *Antichrist*—far from it" (p. xii). He does not say that Christians should be discouraged from reading Nietzsche but that they should *not* be encouraged (p. 1, n.). Is he, then, writing for atheists? If not, for whom is he writing? Presumably he wishes not to foster the *reading* of Nietzsche but to do justice to the man. Yet this implies that the philosopher has something to say worth the saying—and surely therefore worth the reading? There is something paradoxical here, but it may be left to those for whom it is of moment to solve it for themselves.

A more important criticism concerns Prof. Copleston's treatment of Nietzsche on morality, part of which was that morality was hostile to outstanding men. If by these are meant unscrupulous seekers after power, then the author agrees (pp. 113-114)—as would Nietzsche. But, if the reference is to men of great artistic or scientific ability, he denies the charge. This he does on the grounds that when a man such as Socrates has suffered from morality, this was due to imperfect apprehension by his enemies of what was moral. Here we are in a time-honoured type of difficulty. Does morality refer to an ideal morality or to what it was in practice at some relevant period? However this may be answered, the Nietzschean could reply that the striving after an ideal morality, such as Prof. Copleston has in mind, would, even if it were successfully attained, prove to the detriment of outstanding men.

It is a good thing that a book like this should have appeared; for Nietzsche, though one of the most notable of all philosophers, seems to lie—in the British Isles at least—in a reprehensible obscurity.

J. O. WISDOM.

Les entretiens de Zurich sur les fondements et la méthode des sciences mathématiques. Edited by F. GONSETH. Zurich: S. A. Leeman frères & Cie., 1941. Pp. 209.

THESE proceedings have a certain melancholy interest as a memorial to one of the last acts of free intellectual discussion in Europe before the deluge. The occasion was a conference held at Zurich in December 1938 under the auspices of the International Institute of Intellectual Co-operation. Among the thirty or so scholars listed as having participated in the discussions here recorded (about half of them visitors from other countries), the presence of such distinguished figures as Bernays, Lebesgue, Łukasiewicz, Sierpinski, and Skolem might arouse some expectation of original contributions to the philosophy of mathematics. The papers read were, however, in the nature of exposition of work already published; and while the discussions which followed raise some topics of philosophical interest the competence with which these topics were handled is not impressive.

The most useful papers are reports on mathematical logic or metamathematics. Skolem's summary of the proofs of the remarkable theorem with which his name is associated ("Sur la portée du théorème de Löwenheim-Skolem") should do much to make his work more accessible to those who cannot easily read the original papers. Łukasiewicz' report on many-valued logics (misleadingly entitled "Die Logik und das Grundlagenproblem"), while having much to say, and that clearly, concerning

the details of axioms in and reciprocal relations between such logics, conspicuously abstains from discussing their philosophical import. Sierpinski's paper ("L'axiome du choix et l'hypothèse du continu") consists largely of stating without proof theorems, many of them paradoxical, now known to be equivalent to the axiom of choice or special cases of it. For a philosopher the paper of most interest in this group is that by Paul Bernays ("Sur les questions méthodologiques actuelles de la théorie hilbertienne de la démonstration"), whose views on the foundations of mathematics always deserve a careful hearing. He makes somewhat clearer than has been done elsewhere the relations between the "finitism" of Hilbert's original programme and the "intuitionism" of Brouwer's school. The recent work of Gentzen, it is here claimed, rests upon an approach intermediate between those already mentioned. Finally Finsler, in a paper read at a Zurich mathematical colloquium a month later ("A propos de la discussion sur les fondements des mathématiques"), tries to prove once again that the axiom of choice is false (p. 165). His arguments seem no more persuasive now than in his original paper of 1926. The refutations published since that time, and revived in some of the discussions at this conference, having apparently made no impression on the sole begetter of the fallacy.

In all this there is little sustenance for any philosopher who is not deeply engaged with mathematical logic. It is true that the remaining papers by Fréchet ("L'analyse générale et la question des fondements") and Lebesgue ("Les controverses sur la théorie des ensembles et la question des fondements") have more pertinence to specifically philosophical interests. But it is hard to see who is going to learn much from these discursive generalisations about the methodology of mathematics.

In his opening and closing remarks, Gonseth, who acted as chairman throughout, makes strenuous efforts to show the relevance of philosophical issues (the importance of what he calls "une doctrine préalable"), but he does not appear to have been successful in producing a basis for common agreement. One may wonder whether more training in philosophy (or perhaps one ought to say "the right kind of philosophy") would have cured some of the muddled and confused thinking manifest in these discussions. But so long as philosophers disagree it may be unfair to expect mathematicians to do any better once they stray from the blessed control of calculus and rule of thumb.

MAX BLACK.

The Psychology of Aristotle: An Analysis of the Living Being. By CLARENCE SHUTE. New York: Columbia University Press; London: H. Milford, 1941. Pp. xiv + 148. 13s. 6d.

I SHOULD conjecture, though I do not know, that this attractively printed little work is probably a Ph.D. thesis, and if this is so, I should say that it is a creditable one, though it does not appear to me to add anything in particular to our knowledge of Aristotle. I do not suppose Mr. Shute would claim for it more than that it is a lucid synopsis of what Aristotle has to say about the $\psi\chi\chi\acute{\eta}$ in the *Physics*, *Metaphysics*, *de Animâ* and the biological and psychological works generally. And it certainly is that. One or two general criticisms it does indeed suggest to me. I think it a pity that the essay should not be better "documented". Aristotle, when actually quoted, is always quoted in some English version, and though the versions used may be—as they often are—excellent, this inevitably means—perhaps more in the case of Aristotle than in that of

most authors—that translation is blended with interpretation, and that what is commented on is a particular scholar's interpretation of a perhaps highly ambiguous text. This would not matter so much if precise reference were regularly supplied so that the actual words of a quoted sentence could be readily verified. But Mr. Shute habitually provides no more than a reference to page and column of Bekker, which means that a quoted sentence must be hunted for in some 35 or 36 closely printed lines. Indeed, he does not always do as much as this: we get, for instance, such a reference as "*Physics*, I. 7,"—a chapter which runs from 189a 30 to 192b 22. A little more trouble taken by the author in making these references more exact would have saved his reader a world of time and labour.

Mr. Shute has, naturally, his own point of view as an exponent of Aristotle, and it is one which is frankly avowed. What appeals to him above all in Aristotle's treatment of his problem is the close and constant connection of the psychological and the biological, so that behaviour is seen to be interpreted entirely in terms of interaction between the *organism* (*italics mine*) and the environing world. In short, Aristotle, in Mr. Shute's hands, becomes very much a Behaviourist *pur sang*, and is thus brought up to date. (Or should we say, since Behaviourism seems now to have 'passed its peak', not *quite* up to date, but nearly so?) Now I will admit at once that this reduction of Aristotelian psychology to Behaviourism will work well enough up to a point. But will it work at all when we come to the broken and difficult texts of *de Anima* I in which Aristotle tells us of the *voûs* which is *ἀμυρῆς* and *ἀπαθῆς* and always an *ἐνέργεια*, the fountain-head of the mediaeval doctrine of the *intellectus agens*? How can the functioning of this *voûs* (which has no bodily *organ*) be interpreted entirely in terms of interaction between the *organism* (*italics mine*) and the environing world? It seems to me that we are here faced with alternatives; if Aristotle is in earnest here, he is not a Behaviourist, and if he is a Behaviourist, he cannot be earnest here.

The question which Mr. Shute has apparently not asked himself is whether Aristotle's account of the *ψυχῆ* is a consistent whole at all. Is not the *de Anima*, like other Aristotelian works, an imperfectly revised treatise in which a residue of the writer's earlier Platonism conflicts hopelessly with a supervening trend in the direction of what we should call "positive science"? If it is that, then a study like Mr. Shute's will have its value as indicating where Aristotle should have "come out" if he had lived to expunge the Platonism from his teaching, but it will not be a wholly "objective" account of what Aristotle in fact actually taught.

A. E. TAYLOR.

Principes Concordiae: Pico della Mirandola and the Scholastic Tradition.

By AVERY DULLES. Cambridge, Mass.: Harvard University Press; London: H. Milford, 1941. Pp. 182. 11s. 6d.

THE writer of this study contends that Pico was neither a Platonic humanist nor an indiscreet disciple of the Cabbala, but a Christian bent upon synthesising what he believed to be best in the Scholastic tradition. This thesis the author defends with a wealth of learning that reflects great credit both upon himself and upon the Harvard School of Philosophy. If he fails to convince readers completely, that is partly because he has no general view of *Kulturgeschichte* into which he can fit the historical Pico, and partly because his references are not accompanied with those illuminating Latin citations that the incomparable Gilson has taught us to expect in

this field. The history of European thought throughout this critical period cannot be understood unless we contrast the rationalism of the Scholastics with the practical mysticism of the Fifteenth Century which rarely found literary expression, but was nevertheless a most formidable force, as subsequent history showed. In Pico's personality and work there was an unreconciled opposition of this kind. In the end, the rise of experimental science offered a means of reconciling those two points of view, but only at the cost of the forms of speculative philosophy in which Pico and his friends delighted.

ARTHUR T. SHILLINGLAW.

Received also :—

- K. J. W. Craik, *The Nature of Explanation*, Cambridge University Press, 1943, pp. viii + 123, 6s.
- Adhar Chandra Das, *Negative Fact, Negation and Truth*, University of Calcutta Press, 1942, pp. xxiii + 294.
- R. Carnap, *Formalization of Logic*, Cambridge, Mass., Harvard University Press; London, H. Milford, 1943, pp. xviii + 159, 16s. 6d.
- L. S. Stebbing, *A Modern Elementary Logic*, London, Methuen & Co., 1943, pp. viii + 214, 8s. 6d.
- J. E. Boodin, *Religion of Tomorrow*, New York, Philosophical Library, Inc., 1943, pp. 189, \$2.50.
- Twentieth Century Philosophy*, ed. by D. D. Runes, New York, Philosophical Library, Inc., 1943, pp. 571, \$5.00.
- R. W. Leeper, *Lewin's Topological and Vector Psychology: A Digest and a Critique*, Eugene, Oregon, University of Oregon, 1943, pp. 218, \$1.75.
- W. Stark, *The Ideal Foundations of Economic Thought*, London, Kegan Paul, Trench, Trubner & Co., Ltd., 1943, pp. viii + 219, 15s.
- D. Chaplin, *Prehistoric Links*, Perth, Wood & Son, Booksellers, 1943, pp. 43, 2s. 6d.
- G. Finnbogason, *The Icelanders*, The Anglo-Icelandic Society of Reykjavik, 1943, pp. 24.
- J. Ralph, *Get to Know Yourself*, London, Chaterson, Ltd., 1943, pp. 89, 3s. 6d.
- M. Spinka, *John Amos Comenius*, Chicago, The University of Chicago Press; London, Cambridge University Press, 1943, pp. ix + 177.
- E. A. Strecker and K. E. Appel, *Discovering Ourselves: A View of the Human Mind and How it Works*, second edition, New York, The Macmillan Co., 1943, pp. xix + 434, \$3.00.
- R. W. Winston, *Horace Williams: Gadfly of Chapel Hill*, Chapel Hill, The University of North Carolina Press; London, H. Milford, 1943, pp. x + 309, 18s. 6d.
- Slavic Studies*, ed. by A. Kaun and E. J. Simmons, New York, Cornell University Press; London, H. Milford, 1943, pp. x + 242, 18s. 6d.

V.—PHILOSOPHICAL PERIODICALS.

PROCEEDINGS OF THE ARISTOTELIAN SOCIETY. N.S. : Vol. xlii, 1941-42.

A. C. Ewing. The Presidential Address : *The Rights of the Individual against the State*. [Ewing starts by explaining that, without regarding the State as a mystical entity, he holds that propositions about the State cannot be resolved completely into propositions about the several individuals who compose it. He then distinguishes four main types of view about the rights of individuals—some of which, one must remark, do not necessarily exclude each other. The first two types—the doctrine of absolute natural rights and that of the social contract—are set aside. A criticism of the third type, viz. that rights are given by the State, leads on to the fourth type, which may be called utilitarian in the broad sense that it makes the general good fundamental. But this fourth type may seem to bring us back to totalitarianism unless we can assert the absoluteness of some rights. The difficulty is met by the argument that some rights should, if not theoretically, yet in practice be regarded as inviolable. The remainder of the address is devoted to a discussion (in which the writer has the above distinction among rights in view) of the good and bad points of totalitarianism.] C. D. Broad. *Kant's Theory of Mathematical and Philosophical Reasoning*. [Broad first states Kant's contrast between mathematical and philosophical method. He then seeks to show that in geometry (which is Kant's strongest case for his view of mathematical method) modern methods dispense with Kant's 'intuition' by defining the various types of space by means of postulates. He next distinguishes three classes of geometrical axioms and discusses the nature of the evidence for them. Then he states the extent to which he agrees and disagrees with Kant's views about arithmetic, and finally argues that what Kant has to say about algebra cannot be brought under his general view at all. As regards geometry in particular the layman is likely to sympathise with Kant's views rather than with those which are based on non-Euclidean geometries, and is therefore likely to find Broad's criticism of Kant unconvincing.] G. H. Langley. *Personal Relations, and some Implications*. [The writer's aim is to emphasise the importance in practical affairs of that kind of insight into the minds of other people which is obtained by sympathetic intercourse with them. He takes friendship and its effects as his primary example. Such insight may yield a far truer knowledge of human nature, human action, and human values, than any that could be obtained by mere external observation and inference—a knowledge, indeed, that cannot be obtained in any other way. The conditions of obtaining the insight are the expansion of feeling or sympathy which personal intercourse can bring about and the disinterestedness which goes with it. Only when these conditions are present is the insight reliable. They are made easier, but at the same time limited, by other conditions such as kinship and membership of the same social group. The writer concludes with illustrations of the mischief caused by the lack of social insight.] R. L. Saw. *William of Ockham on Terms, Propositions, Meaning*. [A statement of William's views about propositions, their kinds, signification, and truth, and about singulars and universals. A sentence or two about the last named topic may be quoted. 'The opposition of "universal" to "singular" expresses . . . a distinction not among objects, but among signs. There are no objects named universals,

but there are signs named universals. These signs are distinguished from singular signs by the fact that they are capable of standing for many objects while the singular stands for one . . . they both name particulars, but the universal names each of a set of particulars'.] **C. H. Waddington, A. C. Ewing, C. D. Broad.** Symposium: *The Relations between Science and Ethics*. [The symposium begins with a brief and dogmatic statement by Waddington of his own view. His two main propositions are (1) that 'the biological function of ethical systems [= moral ideas] is to act as the machinery on which the evolution of society depends', and (2) that science, as studying the general trend of evolution, can assist in determining the validity [effectiveness or permanence] of moral ideas. Ewing's paper is occupied, naturally enough, in drawing attention to philosophical considerations which a narrowly scientific view overlooks, e.g. questions about ultimate ends, about what is good and bad in our experience, about the distinction between origin and validity, and so on. Unfortunately, Waddington's point of view is scientific in the narrow sense, and such considerations seem to him for the most part to imply a misunderstanding of his argument. Broad's paper is a modified version of his remarks as chairman; he makes a praiseworthy attempt to remove misunderstandings, and to deal with Waddington's theory on its own ground.] **Oskar Kraus.** *On Categories, Relations and Fictions*. [The statement of a doctrine of relations worked out on the basis of the general views of Brentano and his more orthodox followers. The paper is not long, but tries to cover a great deal of ground: it makes assertions, not only about relations, but also, e.g. about substance and accidents, apodictic knowledge, logical axioms, pure mathematics, etc. Consequently it tends to be dogmatic and to leave many of its assertions insufficiently explained or justified. In a note at the beginning we are referred for further information to writings of Brentano and the school, and the paper may be of service in stimulating interest in these writings, which are probably not widely known in this country.] **R. I. Aaron.** *Hume's Theory of Universals*. [A clearly written paper, the main purpose of which is to do justice to an element in Hume's theory which has not been sufficiently appreciated. Three elements in the theory are distinguished: (1) the dependence of generalising on the finding of resemblances; (2) the Berkeleyian doctrine of the particular idea as representative; (3) the view that generalising is a 'propensity' operating in conjunction with naming. The first two elements are discussed and criticised, but the paper is mainly concerned with the third, in which the writer finds Hume's distinctive contribution. A general name not merely raises up a particular idea, but also sets in operation a propensity to revive other ideas to which the general name is applied. This element in the theory 'may be regarded as a protest against the view that generalising consists always or even usually in a conscious selection of common characteristics followed by the framing of a universal'. It therefore supplements in an important way Locke's account of universalising as a matter of conscious construction of nominal essences.] **A. H. Hannay.** *Action*. [A short but suggestive paper, which invites us to reflect on what we mean by such a phrase as 'a man of action'. We are apt to oppose thought and action. Movement is prominent in our idea of action, but most action is more than mere movement, and movement itself, when purposive, involves thought; the more action goes beyond mere movement, the more will it include of thinking and planning. The opposition of thought and action is apt to mean, not that men of action dispense with thought, but that they are content with narrower ideals of

success and coarser methods of attaining it.] H. D. Lewis. "*Self-satisfaction*" and the "*True Good*" in *Green's Moral Theory*. [A long and somewhat laboured exposition of Green's views, mingled with some criticism. As regards the exposition the reader is likely to feel that it conveys no clear impression either of what Green actually did hold or of what the writer thinks he held. The main criticism is that Green 'attempts the impossible, namely the deduction of ultimate moral conceptions from a non-moral source, that is the psychology of the will'. But the writer seems here to ignore—in spite of his own quotations from Green—the fact that ethics is concerned with the *good* will, which is not a non-moral source, and that Green does not profess to derive the good will from the formal nature of willing.]

VI.—NOTES.

APPEAL FOR BOOKS.

Several committees in England are trying to help in re-supplying with books Libraries which have been destroyed or partly destroyed in the war. The need will be very great. Readers of MIND who can spare books for this purpose are requested to communicate with Miss Hilda D. Oakley, 22 Tufton Court, Westminster, S.W.1.

DEATH OF PROF. W. G. DE BURGH.

We regret to announce the death, on 27th August, of Prof. W. G. de Burgh. An Obituary Notice will appear in an early number of MIND.

DEATH OF PROF. L. S. STEBBING.

We regret to announce the death, on 11th September, of Prof. L. Susan Stebbing. An Obituary Notice will appear in an early number of MIND.

MIND ASSOCIATION: REPORT OF ANNUAL MEETING.

The FORTY-THIRD ANNUAL GENERAL MEETING of the Mind Association was held on 2nd July, 1943, in New College, Oxford, the President, Prof. H. H. Price, in the Chair. The Treasurer's report was read and adopted. Prof. H. H. Price was re-elected President for the ensuing year, and the Vice-Presidents were re-elected. Mr. H. Sturt was elected Treasurer, and Mr. C. H. Thompson Auditor. The Executive Committee reported that Prof. G. E. Moore had been re-elected Editor and Mrs. M. Kneale Secretary.

MIND ASSOCIATION.

Those who wish to join the Association should communicate with the Hon. Secretary, Mrs. Kneale, Lady Margaret Hall, Oxford; or with the Hon. Treasurer, Mr. H. Sturt, 55 Park Town, Oxford, to whom the yearly subscription of sixteen shillings should be paid. Cheques should be made payable to the Mind Association, Westminster Bank, Oxford. Members may pay a Life Composition of £16 instead of the annual subscription.

Members resident in U.S.A. may pay the subscription (\$4) to the Hon. Assistant-Treasurer, Prof. B. Blanshard, Swarthmore College, Swarthmore, Pennsylvania.

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